CaseEdge

Industry Intelligence Pack

Consumer & Retail · Financial Services · Healthcare & Pharma · Technology
Industrials · Energy · Transportation · Private Equity
Infrastructure · Media & Telecom · Healthcare Services · Defense

Consumer & Retail

CPG · Apparel · Grocery · DTC · Food & Beverage · Luxury

MARKET OVERVIEW

The U.S. retail market is approximately $7.4T (2025) and the global CPG market tops $1.5T. But the headline number masks the most important structural story: the middle is being squeezed out. Premium and value are both gaining share; mid-market brands are losing it. Dollar General and LVMH are both thriving. Everyone in between is fighting for relevance. E-commerce has reached ~16% penetration (~$1.2T) with Amazon commanding roughly 40% of that.

KEY PLAYERS — KNOW THESE NUMBERS

Walmart
$681B revenue (FY2025) · ~$700B global GMV · Walmart+ 35M+ members. World's largest retailer.

Amazon
$590B total revenue · 40% of U.S. e-commerce · $56B advertising revenue · 6.1B packages delivered (2024).

Costco
$183B revenue · 2% net margin · $4.8B membership fee income · 92.9% renewal rate. The membership fee is the profit.

P&G
$84B revenue · ~23% operating margin · 12 billion-dollar brands. The canonical CPG company.

LVMH
€84.7B revenue · 23.1% operating margin · Fashion & Leather Goods at 40%+ margin. Luxury economics: raise prices 5-10% annually, demand holds.

WHAT TO WATCH

Kroger-Albertsons merger blocked (December 2024)
The FTC block signals large-format grocery consolidation faces a high regulatory bar, keeping the landscape fragmented and limiting national chains' scale

De minimis suspension ends Shein/Temu cost advantage (2025)
Without the duty-free exemption, Shein and Temu lose their landed cost advantage, restoring pricing parity for U.S.

Retail media replacing trade spend
Retailers converting first-party purchase data into $62B+ of ad revenue are shifting CPG budgets from trade spend toward performance media with measurable ROI.

GLP-1 drugs reshaping food demand
GLP-1-driven caloric reduction creates structural volume declines in salty snacks, beverages, and processed foods, directly compressing margin in core CPG

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Same-Store Sales (Comps) *Benchmark: Healthy: +2–4%/yr*
Revenue growth from stores open 12 or more months, isolating organic demand from new-store expansion. Negative comps signal a structural brand or concept problem, not just a capacity issue.

Trade Spend *Benchmark: 15–25% of CPG gross revenue*
Money CPG companies pay retailers in slotting fees, price promotions, displays, and cooperative advertising, typically 15-25% of gross revenue.

Gross Margin by Segment *Benchmark: Grocery 25–30%; Apparel 55–65%; Luxury 65–75%*
Revenue minus COGS divided by revenue, reported by product or business line to isolate pricing power and cost structure differences.

Revenue per Square Foot *Benchmark: Avg retail ~$325; Grocery ~$550; Apple ~$5,500*
Annual revenue divided by total retail square footage, measuring the efficiency of physical retail real estate investment.

Private Label Penetration *Benchmark: U.S. avg ~20%; Costco/Aldi 70–90%*
Percentage of category sales from retailer-owned brands versus national brands. Private label gross margins are 8-10 points higher than equivalent branded products; the retailer captures the brand

4-Wall EBITDA *Benchmark: Must be positive to justify keeping a store*
Store-level profitability: revenue minus direct store COGS, store labor, and occupancy (rent and utilities), excluding allocated corporate overhead.

CORE FRAMEWORK: THE CPG PRICING WATERFALL

→ List Price (Gross Revenue): the published shelf price or invoice price. Nobody actually pays this full price: it is the starting point for the waterfall analysis, and can be 15-25% above what the retailer pays after all deductions.

→ Less Trade Promotions (15-25% of gross revenue): slotting fees, price promotions, display fees, and cooperative advertising. Trade spend is the largest deduction most candidates miss: it comes off the top before any profitability work.

→ Invoice Price: the price the retailer actually pays after trade deductions. Still not the number that drives the P&L: there are additional below-the-line deductions before you reach net revenue and true profitability.

→ Less Cash Discounts, Freight Allowances, and Returns: another 1-3% deduction that adds up fast at scale. A brand doing $1B in gross revenue loses $10-30M here before arriving at net revenue or pocket price.

→ Net Revenue / Pocket Price: the revenue the P&L actually captures. This is the only number that matters for profitability analysis. Everything above it matters for commercial negotiation, not for margin or cost structure work.

→ Less COGS, then Gross Profit, then Brand Investment (A&P) and SG&A, then Operating Profit. Brand investment runs 8-12% of net revenue at most CPG companies. Operating profit is the output that drives portfolio and pricing decisions.

Most analysts think about CPG profitability as Revenue minus COGS equals Gross Profit. That framing is wrong and will cost you in a case. The waterfall from list price to pocket price is where the real story lives.

HOW TO APPROACH CASES IN THIS INDUSTRY

CPG Profitability / Pricing
Start with the pricing waterfall: list price minus trade spend, returns, and allowances equals net revenue.

Retail Store Portfolio / Closure Decision
Evaluate each store on 4-wall EBITDA: revenue minus direct COGS, store labor, and occupancy, excluding allocated corporate overhead that does not disappear with a closure.

DTC vs. Wholesale / Channel Strategy
Compare fully-loaded unit economics across channels: DTC captures higher gross margin but carries CAC, fulfillment, and return costs that wholesale avoids.

Grocery / Supermarket Turnaround
Grocery turnarounds concentrate on three levers: shrink (theft and spoilage), labor scheduling efficiency, and private label mix improvement.

Financial Services

Banking · Insurance · Asset Management · Payments

MARKET OVERVIEW

The global banking revenue pool is approximately $7T. But the headline obscures the industry's fundamental economics problem: the average bank ROE of ~10.3% barely clears the cost of equity (typically 10–12%). Only 14–15% of banks globally create shareholder value on a P/B basis. The rest are in slow-motion value destruction. This is why bank M&A, cost transformation, and digital strategy generate so much consulting work. The U.S. insurance market is $1.4T in premiums.

KEY PLAYERS — KNOW THESE NUMBERS

JPMorgan Chase
$177B revenue · $58.5B net income · CET1 15.3% · efficiency ratio ~55%. The undisputed benchmark firm.

Visa
$35B net revenue · ~67% operating margin · zero credit risk. Pure payment network toll road.

BlackRock
$11.5T AUM · ~$19B revenue · iShares = 35%+ of U.S. ETF market. Built on passive indexing and the Aladdin risk platform.

UnitedHealth Group
$400B revenue · Optum = 50%+ of operating earnings · MLR ~83-85%. A health insurer transforming into a vertically integrated care system.

Chime / SoFi
$2B+ Chime revenue · 22M+ accounts · no overdraft fee model. Digital challengers forcing traditional banks to rethink fee income, branch economics, and the true cost to serve

WHAT TO WATCH

Basel IV / Basel III Endgame implementation
Basel IV forces banks to raise capital or reduce RWA, making capital allocation analysis and portfolio repricing the core strategic and M&A response framework.

Regional bank consolidation accelerating post-SVB
SVB exposed deposit concentration and duration mismatch risks, creating M&A pressure on $10-100B banks that cannot absorb rising regulatory and technology costs.

Private credit displacing leveraged lending
Direct lending captured 50%+ of leveraged buyout financing through speed and covenant flexibility, permanently shrinking traditional bank leveraged finance fee

AI transforming operations and compliance
AI reduces fraud false positives 40-60% and cuts compliance costs, but creates model risk governance challenges that bank regulators are actively formalizing.

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Net Interest Margin (NIM) *Benchmark: U.S. banks: 2.5–3.5%*
Net interest income divided by average earning assets, measuring the core spread a bank earns between loan yields and funding costs.

Efficiency Ratio *Benchmark: 55–65% (lower = better)*
Non-interest expense divided by total revenue (net interest income plus non-interest income); lower is better, with best-in-class banks operating below 55%.

CET1 Ratio *Benchmark: Regulatory min ~4.5%; large banks target 11–13%*
Common Equity Tier 1 capital divided by risk-weighted assets, the primary regulatory capital adequacy metric for banks under Basel III. Regulators require minimums of 4.

Combined Ratio (Insurance) *Benchmark: <100% = underwriting profit*
Loss ratio (claims paid divided by premiums earned) plus expense ratio (operating expenses divided by premiums), expressed as a percentage.

Return on Equity (ROE) *Benchmark: 10–15% for well-run banks; cost of equity ~10–12%*
Net income divided by average shareholder equity, measuring how efficiently a bank generates profit from the capital its shareholders have invested. Large U.S.

Price-to-Book (P/B) *Benchmark: Well-run banks: 1.5–2.5×; sector avg ~1.0×*
Market capitalization divided by book value of equity, measuring how much investors are paying for each dollar of net assets.

CORE FRAMEWORK: THE BANK P&L

→ Net Interest Income (NII): Earning Assets multiplied by Net Interest Margin (NIM). Decompose earning assets by type (loans, securities, interbank) and NIM by funding cost versus asset yield. NII is typically 55-65% of a bank's total revenue.

→ Non-Interest Income: fee revenue from service charges, card fees, wealth management, investment banking, and trading. Fee income is higher-quality than NII because it is not rate-sensitive. Banks with 40%+ fee mix trade at premium valuations.

→ Total Revenue minus Provision for Credit Losses (PCL): PCL is the bank's forward-looking estimate of expected loan losses. Rising PCL signals deteriorating credit quality and compresses profitability before any cost action is possible.

→ Net Revenue minus Non-Interest Expense equals Pre-Tax Income. Non-interest expense drives the efficiency ratio (expense divided by revenue). Best-in-class banks run 50-55% efficiency ratios; above 65% signals structural cost problems.

→ Pre-Tax Income multiplied by (1 minus Tax Rate) equals Net Income. Net Income divided by Average Equity equals ROE. The final test: does ROE clear the cost of equity (typically 9-11%)? If not, the bank is destroying shareholder value.

Most candidates approach bank cases with a generic revenue and cost structure. The correct framework starts with the balance sheet: bank revenues are a function of asset and liability volumes and spreads, not just pricing and cost.

HOW TO APPROACH CASES IN THIS INDUSTRY

Bank Profitability / ROE Improvement
Decompose ROE using the DuPont framework: net income margin times asset turnover times leverage.

Bank M&A / Merger Economics
Bank M&A synergies concentrate in branch overlap reduction, back-office consolidation, and funding cost arbitrage from the combined deposit base.

Insurance Underwriting / Pricing Strategy
Insurance profitability analysis starts with the combined ratio: loss ratio plus expense ratio.

Fintech Disruption / Digital Banking Strategy
Identify which products and customer segments are being displaced: checking accounts, personal loans, and payments are the most vulnerable to fintech competition.

Healthcare & Pharma

Hospitals · Pharma · Medical Devices · Telehealth · Payers

MARKET OVERVIEW

The U.S. spends more on healthcare per capita than any peer nation, yet health outcomes consistently rank below other high-income countries on major measures. The industry is structurally fragmented: no single participant controls more than 5–6% of total spend: which is precisely why it attracts so much consolidation activity, PE investment, and consulting work. Understanding how money flows through the system is the essential foundation for any healthcare case. The payer-provider dynamic is the central tension. Large health systems (HCA, CommonSpirit, Ascension) have gained negotiating leverage over commercial payers by acquiring physician groups and reducing patient optionality: in many markets, a single health system controls 40–60% of inpatient beds.

KEY PLAYERS — KNOW THESE NUMBERS

UnitedHealth Group
$400B revenue · MLR ~83-85% · Optum = 50%+ of operating earnings. The largest health insurer and a vertically integrated care platform.

Eli Lilly
$45B revenue (2024) · ~40% operating margin · Mounjaro/Zepbound = largest drug launch in history. The most valuable pharma company by market cap.

Johnson & Johnson
$88B revenue · ~25% operating margin · MedTech = $32B segment. Post-Kenvue spinoff (2023), pure pharma and MedTech.

HCA Healthcare
$70B revenue · ~15% EBITDA margin · 186 hospitals · payer mix drives everything. The largest for-profit hospital system.

Intuitive Surgical
$8B revenue · ~30% operating margin · 9,000+ da Vinci systems installed. The robotic surgery standard.

WHAT TO WATCH

GLP-1 drugs reshaping the entire healthcare ecosystem
GLP-1 drugs will structurally reduce demand for bariatric surgery, cardiac devices, and diabetes supplies as obesity comorbidities decline at population scale.

Medicare Advantage profitability crisis
MA combined ratios exceeded 100% after CMS cuts, forcing carrier exits. Assess reimbursement sustainability before underwriting any Medicare Advantage growth thesis.

IRA drug pricing negotiation taking effect
IRA price negotiation structurally caps net prices for top Medicare drugs, reducing specialty pharma revenue certainty and compressing late-stage pipeline

AI in clinical decision-making and diagnostics
AI tools matching specialist accuracy in radiology and pathology create disruption risk for fee-for-service diagnostic revenue at imaging centers and pathology labs.

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Medical Loss Ratio (MLR) *Benchmark: Commercial: 80–85%; Medicare Advantage: 85–88%*
Medical claims paid divided by premium revenue, representing the share of premium dollars spent on actual healthcare services.

Payer Mix *Benchmark: Commercial pays 3–4× Medicaid rates*
The percentage breakdown of revenue from commercial insurance, Medicare, and Medicaid payers, which pay materially different rates for the same services.

EBITDA per Bed *Benchmark: $50K–$150K (highly variable by system and market)*
Total hospital EBITDA divided by licensed or staffed bed count, measuring operating profitability per unit of inpatient capacity.

Drug Gross Margin *Benchmark: Branded pharma: 80–90%; Generics: 30–60%*
Net drug revenue minus cost of goods sold divided by net revenue, measuring profitability after manufacturing and royalty costs but before sales, marketing, and R&D.

Days Sales Outstanding (DSO) *Benchmark: Hospital: 45–70 days*
Average accounts receivable balance divided by average daily net revenue, measuring how quickly a healthcare business collects on billed claims.

R&D as % of Revenue (Pharma) *Benchmark: Large pharma: 15–20% of revenue*
Research and development expense divided by total revenue, measuring the investment intensity of a pharmaceutical company's innovation effort.

CORE FRAMEWORK: FOLLOWING THE DOLLAR

→ Patient and Employer: the original payer. Employers cover roughly 70% of commercial premiums and employees pay the rest plus out-of-pocket costs. Patient cost-sharing (deductibles, copays, coinsurance) affects utilization and adherence behavior.

→ Payer (Health Insurer): collects premiums, negotiates reimbursement rates with providers, and manages utilization through prior authorization and formulary controls. The payer's medical loss ratio (MLR) is the key profitability metric.

→ PBM (Pharmacy Benefit Manager): manages drug benefits for payers and negotiates rebates from pharma manufacturers. PBMs capture significant spread between list and net price: a structural source of margin that is under intense regulatory scrutiny.

→ Provider (Hospital or Physician): delivers care and bills the payer at negotiated rates. Commercial rates are 2-3x Medicare rates: commercial volume subsidizes Medicare and Medicaid patients. Payer mix is the single biggest driver of hospital margin.

→ Pharma and Device Manufacturer: the asset creator. Sets list price, then negotiates net price with PBMs and payers. The spread between list and net price has widened dramatically for high-value drugs, making gross-to-net a critical analysis.

Healthcare cases are uniquely complex because there are four distinct parties in every transaction: the patient, the payer, the provider, and the manufacturer. Follow the dollar through each layer before drawing any conclusion about pricing or margin.

HOW TO APPROACH CASES IN THIS INDUSTRY

Hospital Profitability / Turnaround
Hospital profitability is driven by payer mix, service line contribution margins, and cost per adjusted patient day.

Pharma Pipeline / Portfolio Strategy
Prioritize pipeline assets using risk-adjusted net present value: model peak sales, probability of technical and regulatory success, time to launch, and development cost.

Payer Strategy / Value-Based Care
Value-based care shifts financial risk from payer to provider, requiring providers to manage total cost of care for a defined population.

Medical Device Market Entry / Pricing
Medical device pricing must justify a premium over standard of care using a health economics argument: cost per QALY or cost per procedure versus alternatives.

Technology & Software

SaaS · Cloud · Cybersecurity · AI Platforms · Semiconductors

MARKET OVERVIEW

The cloud infrastructure market exceeded $400B in 2025 and is growing ~25% annually, dominated by the hyperscaler trio: AWS (~30% share), Microsoft Azure (~20–22%), and Google Cloud (~12–13%). These three collectively control ~63% of cloud infrastructure. But the more strategically important story for case interviews is the AI infrastructure buildout: Microsoft, Google, and Amazon together are spending $200B+ in 2025 capex: a number that dwarfs anything in the industry's history and is creating a massive infrastructure investment cycle across semiconductors, data centers, and networking equipment. Enterprise software (SaaS) is the most mature sub-segment. Salesforce ($35B), ServiceNow ($11B), and Workday ($8B) have achieved near-monopoly positions in their respective categories through deep system integration, high switching costs, and platform extension strategies.

KEY PLAYERS — KNOW THESE NUMBERS

Microsoft
$245B revenue · Azure ~20-22% cloud share · Copilot embedded across Office 365. The most strategically diversified hyperscaler.

Nvidia
$130B revenue (FY2025) · ~80% AI GPU market share · data center = 87% of revenue. The most profitable S&P 500 company by ROIC.

Amazon / AWS
$108B AWS revenue · ~30% cloud share · ~37% operating margin · funds the rest of Amazon. AWS invented cloud infrastructure and still leads on breadth of services.

CrowdStrike
$4B ARR · NRR ~120% · Falcon platform = 28+ modules on a single agent. The fastest-growing large cybersecurity company.

Salesforce
$35B revenue · ~25% operating margin · CRM market leader · MuleSoft and Tableau as data layers. The canonical SaaS company.

WHAT TO WATCH

AI capex buildout creating a $200B+ annual investment cycle
AI capex of $200B+ annually creates multi-year demand for GPUs, data centers, and power infrastructure. Identify who has durable pricing power and for how long.

SaaS consolidation and platform bundling accelerating
Hyperscalers bundling AI tools into cloud agreements substitute for standalone SaaS, compressing net new ARR for single-product vendors without platform moats.

Semiconductor export controls reshaping global supply chains
Chip export controls force supply chain bifurcation, requiring dual product architectures and creating structural cost disadvantages for companies with China

Software development cost deflation from AI coding tools
AI coding tools increasing developer productivity 30-50% will compress software costs and erode the engineering headcount moat that large technology incumbents rely

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Net Revenue Retention (NRR) *Benchmark: Good: >110%; great: >120%; elite: >130%*
Revenue retained from the prior year's customer cohort including expansion, contraction, and churn, expressed as a percentage of the prior year base.

Rule of 40 *Benchmark: Combined score >40% = healthy; >60% = exceptional*
Revenue growth rate plus EBITDA margin, combined into a single metric for evaluating the trade-off between growth and profitability in SaaS businesses.

CAC Payback Period *Benchmark: Best-in-class: <12 months; acceptable: <24 months*
The number of months required for a new customer's gross margin contribution to recover the fully-loaded sales and marketing cost spent to acquire that customer.

ARR per Employee *Benchmark: Elite SaaS: $250K–$500K+*
Annual recurring revenue divided by total full-time employee count, measuring revenue productivity per headcount dollar and the efficiency of the operating model.

Gross Margin (SaaS) *Benchmark: Software: 70–80%; infrastructure/cloud: 55–65%*
Revenue minus cost of revenue (hosting, support, and third-party software costs) divided by revenue, the fundamental unit economics metric for software businesses.

ARR Multiple (Valuation) *Benchmark: Rule-of-40 >60: 15–20×; 40–60: 8–12×; <40: 4–7×*
Enterprise value divided by annual recurring revenue, the primary valuation metric for high-growth SaaS businesses where earnings are negative or minimal.

CORE FRAMEWORK: THE SAAS UNIT ECONOMICS MODEL

→ Customer Acquisition Cost (CAC): total sales and marketing spend divided by new customers acquired. Benchmark: CAC should be recovered within 12-18 months of revenue. CAC above 24 months is a structural warning sign in any SaaS business.

→ Annual Contract Value (ACV) multiplied by Gross Margin equals annual cash contribution per customer. Gross margin is the leverage point: SaaS at 70-80% gross margin compounds value; at 50% or below, the economics rarely work at scale.

→ Gross Revenue Retention: the percentage of prior-year revenue retained from existing customers before any expansion. Best-in-class is 90%+ for SMB and 95%+ for enterprise. Gross retention below 85% means the business is filling a leaky bucket.

→ Net Revenue Retention (NRR): gross retention plus upsell and cross-sell expansion from existing customers. NRR above 120% means the business grows even with no new customer acquisition. NRR is the best single predictor of long-term SaaS value.

→ LTV/CAC Ratio: (ACV multiplied by Gross Margin divided by Churn Rate) divided by CAC. Above 3x is healthy; above 5x is exceptional. Below 3x signals either a CAC problem, a margin problem, or a churn problem that must be diagnosed separately.

→ Rule of 40 and Free Cash Flow: growth rate plus FCF margin should exceed 40% for a high-quality SaaS business. Below 30% combined typically means the business is either not growing fast enough or not profitable enough to justify its valuation.

SaaS businesses front-load costs (sales, onboarding, product) and back-load revenue (subscription over time). The key discipline is distinguishing between growth investment that compounds: NRR-driven expansion: and growth spending that does not.

HOW TO APPROACH CASES IN THIS INDUSTRY

SaaS Growth Slowdown / NRR Decline
Decompose ARR changes into new logo growth, expansion, contraction, and churn to identify where the growth problem originates.

Build vs. Buy vs. Partner (Tech Capability)
Build is fastest when internal capabilities are strong and the capability is core to competitive differentiation.

Cloud Migration / Hyperscaler Strategy
Cloud platform competition is a scale game: AWS, Azure, and GCP have structural cost and breadth advantages over mid-tier providers.

AI Strategy / Monetization
AI product strategy requires a clear view on whether AI is a feature, a product, or a platform and what the sustainable differentiation is.

Industrials & Manufacturing

Auto Parts · Aerospace · Chemicals · Packaging · Industrial OEM

MARKET OVERVIEW

U.S. manufacturing output is $2.95T, roughly 11% of GDP, and the sector is undergoing its most significant structural transformation since the offshoring wave of the 1990s–2000s. Three forces are driving this simultaneously: nearshoring (companies moving production closer to end markets to reduce supply chain risk), the energy transition (requiring entirely new manufacturing capacity for EVs, batteries, solar panels, and wind turbines), and a $1T+ federal incentive wave (CHIPS Act, IRA, IIJA) creating the largest government-directed industrial investment in U.S. history. The aerospace and defense sector ($900B+ global) is in a sustained upcycle driven by both commercial aviation recovery and defense buildout. Boeing's quality crisis (737 MAX door plug blowout, production slowdowns, 2024 strike) has contributed to an industry-wide commercial aircraft backlog of 14,000+ orders across Boeing and Airbus combined: deliveries will take 10+ years at current production rates, creating an unusually long and visible revenue pipeline for the supply chain. Boeing's own backlog stands at approximately 5,500+ aircraft; Airbus is constrained by engine supplier bottlenecks (CFM, Pratt & Whitney) rather than airframe capacity.

KEY PLAYERS — KNOW THESE NUMBERS

GE Aerospace
$38B revenue · LEAP and GE9X engines power 70%+ of new aircraft · services = 75% of revenue. The highest-margin aerospace business.

Boeing
$66B revenue · $58B in debt · 737 MAX and 787 production below target · 5,500+ aircraft backlog. The most scrutinized turnaround case in aerospace.

Honeywell
$36B revenue · ~22% operating margin · aerospace + building automation + industrial software. The premium industrial conglomerate.

Caterpillar
$64B revenue · ~22% operating margin · financial services = $3B profit · dealer network = the moat.

Danaher
$24B revenue · ~25% operating margin · life sciences = 75% of revenue. The gold standard for industrial M&A and operational improvement.

WHAT TO WATCH

Nearshoring and Mexico manufacturing boom
Mexico became the largest U.S. import partner as companies relocated from China for tariff risk and proximity.

Boeing quality crisis reshaping aerospace supply chain
Boeing's production rate cuts force Tier 1-2 suppliers to absorb underabsorbed fixed overhead while managing cash flow decline: a textbook fixed cost deleverage

Industrial automation and robotics democratization
Robotics payback periods have compressed to 18-24 months in high-wage environments, making automation a primary capital allocation priority in manufacturing cases.

IRA-driven clean manufacturing investment wave
IRA and CHIPS Act direct $1T+ into semiconductor, EV, and clean energy manufacturing.

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

EBITDA Margin *Benchmark: Diversified industrial: 15–22%; heavy mfg: 8–14%*
Earnings before interest, taxes, depreciation, and amortization divided by revenue, measuring operating profitability normalized for capital structure and accounting differences.

Aftermarket Revenue Mix *Benchmark: Best-in-class OEMs: 40–60% of revenue from aftermarket*
Parts, service, and maintenance revenue from the installed base divided by total company revenue, measuring diversification away from cyclical new equipment sales.

Capacity Utilization *Benchmark: Healthy: 75–85%; breakeven: ~65–70%*
Actual production volume divided by theoretical maximum capacity, measuring the efficiency of fixed asset deployment.

OEE (Overall Equipment Effectiveness) *Benchmark: World-class: 85%+; average: 40–60%*
Availability times performance times quality, measuring the percentage of planned production time that is truly productive.

Inventory Turns *Benchmark: Discrete mfg: 4–8×; process industries: 8–15×*
Cost of goods sold divided by average inventory balance, measuring how efficiently a company manages working capital relative to its sales volume.

Cost per Unit / Should-Cost *Benchmark: Benchmark against best-in-class peer or internal top-quartile*
Actual manufacturing cost per unit versus a should-cost model built from first principles (materials, direct labor, overhead, and burden), used to identify cost reduction opportunities.

CORE FRAMEWORK: THE INDUSTRIAL MARGIN BRIDGE

→ Revenue Quality: Price multiplied by Volume multiplied by Mix. Decompose revenue change into price realization (are you getting your price increases or giving them back in concessions?), volume (end-market demand or share shift?), and mix (moving to higher or

→ Variable Cost: Materials plus Direct Labor. Benchmark materials cost against should-cost models built from commodity indices. Direct labor productivity should be measured as units per labor hour and compared to best-demonstrated rate on the line.

→ Fixed Cost Absorption: Overhead divided by Volume. Fixed manufacturing overhead (depreciation, facility costs, salaried labor) spreads across units produced. Volume declines crush margins because fixed costs do not fall with production.

→ Aftermarket Penetration and Service Revenue. Calculate aftermarket revenue as a percent of installed base multiplied by average annual spend. Aftermarket typically runs at 25-40% gross margin versus 10-15% for new equipment: mix shift is the opportunity.

→ Working Capital Efficiency: Inventory plus Receivables minus Payables. In manufacturing, working capital is often 20-30% of revenue. Days inventory outstanding above 60 days signals either demand forecasting problems or supply chain fragility.

Industrial profitability cases almost always trace to one of three structural problems: pricing power erosion (customers gained leverage), fixed cost deleverage (volume fell below breakeven), or input cost pass-through failure (materials rose faster than

HOW TO APPROACH CASES IN THIS INDUSTRY

Manufacturing Cost Reduction / Plant Consolidation
Start with Overall Equipment Effectiveness: availability times performance times quality, benchmarked against internal best performers and industry peers.

Aftermarket / Service Revenue Growth
Aftermarket businesses carry 40-60% gross margins versus 15-25% for original equipment because parts and service are captive to the installed base.

Supply Chain Restructuring / Nearshoring
Compare total landed cost across supply chain configurations: factory gate price plus tariffs, freight, inventory carrying cost, and lead-time risk premium.

EV / Energy Transition Supplier Strategy
Assess the revenue exposure at risk from EV transition: combustion-specific components (exhaust, transmission, fuel systems) face structural volume declines as EV penetration grows.

Energy & Utilities

Oil & Gas · Renewables · Electric Utilities · Mining · LNG

MARKET OVERVIEW

Global energy investment reached a record $3T in 2024, with clean energy accounting for $2T: the first year clean energy investment significantly exceeded fossil fuel investment. Yet this is not a zero-sum transition: oil and gas production simultaneously hit all-time highs in 2024, with U.S. crude output reaching 13.4M barrels/day. The apparent contradiction resolves when you understand the demand side: global energy demand is growing faster than clean energy can be deployed, requiring continued fossil fuel investment even in an aggressive decarbonization scenario. The IEA's base case requires $4T+ in annual energy investment by 2030: both clean and conventional. The electric power sector is undergoing its most significant transformation since electrification itself.

KEY PLAYERS — KNOW THESE NUMBERS

ExxonMobil
$400B revenue · Permian breakeven ~$35/bbl · $60B Pioneer acquisition (2023). The most cost-disciplined supermajor.

NextEra Energy
$24B revenue · largest renewable energy company globally · 35GW+ in operation. The template for utility decarbonization: regulated Florida base (FPL) provides stable cash

Shell / BP
$316B Shell revenue · $213B BP revenue · both walked back aggressive renewable pledges in 2024.

Enbridge
$15B revenue · 40% of North American crude oil transported · pipeline = regulated toll-road economics. Regulated returns, contracted volumes, and 3%+ annual dividend growth.

Constellation Energy
$24B revenue · nuclear = 90%+ of generation · data center PPA pipeline surging. The largest U.S. nuclear operator.

WHAT TO WATCH

AI data centers creating an unexpected power demand boom
AI workloads are driving the first meaningful U.S. electricity demand growth since 2008, with data center power projected to double from 17GW to 35GW by 2030.

Nuclear renaissance: SMRs and large plant restarts
Microsoft, Google, and Amazon PPAs for nuclear energy validate large plant restart economics and small modular reactor viability as baseload power for AI data

U.S. LNG export buildout and European energy security
U.S. LNG capacity doubling to 28 Bcf/d by 2028 makes the U.S. the world's largest LNG exporter, linking domestic gas prices to global energy markets structurally.

Transmission bottleneck constraining renewable development
Over 2,000 GW of renewables await grid interconnection with 3-5 year queue times, making transmission access the binding constraint on new renewable project

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Breakeven Oil Price *Benchmark: Permian: $35–45/bbl; deepwater: $40–60/bbl; oil sands: $55–70/bbl*
The WTI or Brent oil price at which a producing asset or company-level portfolio generates zero free cash flow after operating costs, capital expenditures, and debt service. U.S.

LCOE (Levelized Cost of Energy) *Benchmark: Solar: $30–50/MWh; onshore wind: $28–50/MWh; new CCGT gas: $60–80/MWh*
The per-MWh cost of generating electricity over a project's lifetime, including capital costs, financing, operations, and fuel, calculated on a present-value basis.

Reserve Replacement Ratio *Benchmark: >100% = replacing what was produced; <100% = depleting*
New proved reserves added through drilling, acquisitions, or revisions divided by production volumes in the same period. A ratio below 1.

Rate Base (Utilities) *Benchmark: Regulated ROE: 9–11% (set by regulators)*
The value of assets on which regulators allow a utility to earn an authorized return on equity, the primary earnings growth driver for regulated electric and gas utilities.

EV/EBITDA (Energy) *Benchmark: E&P: 4–7×; midstream: 8–12×; utilities: 10–16×*
Enterprise value divided by EBITDA, the primary relative valuation metric for energy companies, applied across the sector from E&P to utilities.

Capacity Factor *Benchmark: Solar: 20–30%; wind: 30–45%; gas CCGT: 50–60%*
Actual electricity generated by a power plant divided by the theoretical maximum if the plant operated at full capacity for the entire period.

CORE FRAMEWORK: THE ENERGY PORTFOLIO DECISION

→ Define the price scenarios first. Always model three: base case (current forward curve), stress case (20-30% below base for 2+ years), and upside case. The stress case is the most important: it determines whether the project survives a downturn.

→ Calculate project-level economics: NPV and IRR at each price scenario. For upstream: Production profile multiplied by (Price minus Lifting Cost minus Royalties minus Transport). For midstream and power: contracted volume multiplied by tariff or spread.

→ Assess portfolio balance between commodity-exposed and contracted or regulated assets. A well-balanced energy portfolio has 60-70% of cash flows from long-term contracts or regulated returns, with commodity exposure concentrated in the highest-return projects.

→ Capital allocation: rank projects by IRR at stress-case pricing, then layer in strategic fit and execution risk. The best energy companies allocate capital only to projects that generate positive returns at the bottom of the commodity cycle.

→ Shareholder returns versus reinvestment decision. Free cash flow equals operating cash flow minus maintenance capex. Growth capex is discretionary: the question is always whether reinvesting at the marginal project IRR beats returning cash to shareholders.

Energy strategy cases always involve capital allocation under commodity price uncertainty. The framework is not revenue minus cost equals profit.

HOW TO APPROACH CASES IN THIS INDUSTRY

Energy Company Capital Allocation / Portfolio Strategy
Rank assets by breakeven oil price, return on capital employed, and strategic fit at base-case and stress-case commodity prices.

Utility Decarbonization / Rate Case Strategy
Utilities earn regulated returns on their rate base, so decarbonization investment is also a rate base growth opportunity that supports earnings growth.

Renewable Energy Project Investment Decision
Evaluate renewable projects on levered IRR and LCOE versus the regional grid price and the cost of alternative generation.

Oil & Gas M&A / Asset Acquisition
Upstream M&A valuation uses NAV analysis: model proved and probable reserve volumes, production profile, and operating cost, then discount at the company's cost of capital.

Transportation & Logistics

Airlines · Freight Rail · Parcel · E-Commerce Logistics · Trucking

MARKET OVERVIEW

U.S. logistics costs were $2.58T in 2023, representing 8.7% of GDP. The last mile: the final delivery from a local hub to the end consumer: accounts for 40–53% of total supply chain costs despite covering less than 1% of the physical distance. This is the central economics problem of e-commerce logistics, and Amazon's decision to build its own delivery network (AMZN Logistics, 6.1B packages in 2024) at a cost of $150B+ over 15 years was the most consequential logistics investment decision of the decade. Every other parcel carrier, 3PL, and retailer is now responding to Amazon's logistics vertical integration. The airline industry has structurally consolidated since 2008: four carriers (American, Delta, United, Southwest) control ~80% of U.S. domestic capacity, a concentration that would have been inconceivable during the regulated era. This consolidation has made the industry sustainably profitable for the first time in its history, with Delta and United consistently generating $3–5B in annual operating income.

KEY PLAYERS — KNOW THESE NUMBERS

FedEx
$88B revenue · $4B+ cost reduction program · network consolidation underway · Express margin ~6%. The most important cost transformation case in logistics.

UPS
$91B revenue · ~10% operating margin · B2C vs. B2B mix shift challenge. The largest parcel carrier by volume.

Delta Air Lines
$58B revenue · ~$5B operating income · SkyMiles loyalty = $30B+ valuation · premium cabin = 50%+ of revenue. The best-run U.S. airline.

Union Pacific
$24B revenue · operating ratio ~60% · $150B+ in network replacement value. The benchmark Class I railroad.

Amazon Logistics
$135B+ logistics spend · 6.1B packages delivered annually · 150K+ delivery vans. Now the 3rd-largest U.S.

WHAT TO WATCH

Amazon logistics displacing UPS and FedEx
Amazon self-delivers 6B+ packages annually and offers 3PL services to other shippers, competing directly with UPS and FedEx on last-mile economics in dense urban

Prolonged trucking freight downcycle
Pandemic carrier expansion drove spot rates to near-breakeven. No meaningful recovery is possible until excess capacity exits through carrier attrition.

Electric vehicle fleet transition for commercial trucking
Urban last-mile fleet electrification is viable now; long-haul Class 8 is not, with range and charging infrastructure gaps persisting above 200 miles.

Spirit Airlines bankruptcy and LCC consolidation
Spirit's bankruptcy signals LCC structural oversupply. Assess pricing differentiation and demand base before underwriting any low-cost carrier investment or M&A

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Cost per Available Seat Mile (CASM) *Benchmark: Full-service: 14–17¢; ultra-low cost: 8–11¢*
Total operating cost divided by available seat miles (seats times miles flown), the primary unit cost metric for airlines.

Load Factor *Benchmark: Airline: 83–87%; industry breakeven ~75–78%*
Percentage of available seat capacity filled by paying passengers, measuring the demand versus supply balance on a route or network level.

Operating Ratio (Rail) *Benchmark: Best-in-class: 55–60%; average: 62–67%*
Operating expenses divided by operating revenue for a railroad, expressed as a percentage; lower is better.

Cost per Package (Parcel) *Benchmark: FedEx Ground: ~$8–10; UPS Ground: ~$9–11; USPS: ~$6–8*
Total last-mile and sortation cost divided by number of packages delivered, the primary unit economics metric for parcel and last-mile logistics operators.

Revenue per Available Cargo Ton Mile *Benchmark: Highly variable by freight type and contract structure*
Revenue divided by available cargo ton miles, measuring the yield efficiency of deployed air or surface cargo capacity.

Net Promoter Score / On-Time Performance *Benchmark: Airline OTP target: 85%+; best-in-class: 87–89%*
On-time performance measures the percentage of flights, shipments, or deliveries arriving within the defined on-time window; NPS measures customer likelihood to recommend.

CORE FRAMEWORK: THE AIRLINE P&L

→ Revenue: Available Seat Miles (ASMs) multiplied by Load Factor multiplied by Yield equals Passenger Revenue. ASMs is the capacity decision. Load factor is the demand and revenue management outcome.

→ Ancillary Revenue: baggage fees, seat upgrades, co-brand credit card revenue, and cargo. For major U.S. carriers, ancillary revenue is now 15-25% of total revenue and runs at margins 2-3x higher than base ticket revenue.

→ Operating Cost structure: Fuel (20-25% of costs), Labor (25-30%), Aircraft ownership and maintenance (15-20%), and Distribution plus G&A. Fuel and labor together are 50%+ of costs and both are largely fixed in the short term.

→ RASM minus CASM equals Operating Margin per ASM. When Revenue per ASM exceeds Cost per ASM, the airline is profitable on a per-unit basis. The efficiency play is always on CASM: unit cost improvements fall directly to the operating margin line.

→ For logistics cases: substitute cost per unit (package, pallet, container) for CASM and revenue per unit for RASM. Network density is the key driver: routes with higher stop density have lower cost per delivery and better asset utilization.

Airlines and logistics businesses share a structural challenge: revenue and cost are both driven by volume, but at different rates. Fixed cost leverage on the upside is the opportunity; fixed cost deleverage on the downside is the existential risk.

HOW TO APPROACH CASES IN THIS INDUSTRY

Airline Profitability / Route Optimization
Map routes by contribution margin: revenue minus variable cost (fuel, crew, landing fees) excluding allocated fixed overhead.

Logistics Network Optimization
Logistics network design balances transportation cost, warehouse cost, and service level commitments.

Freight Rail Operating Improvement
Rail profitability is measured by operating ratio: operating expenses divided by operating revenue.

E-Commerce Logistics / Last-Mile Strategy
Last-mile delivery is 40-50% of total logistics cost despite being the final short leg of the journey.

Private Equity

Buyout · Growth Equity · Secondaries · Due Diligence · Carve-Outs

MARKET OVERVIEW

Global private equity assets under management exceeded $8T in 2024, with $4T+ in uncommitted dry powder: the largest overhang in the industry's history. After a deal-making peak in 2021 ($904B global buyout deal value), activity slowed sharply in 2022–23 as rising interest rates made leveraged buyouts dramatically more expensive. Deal volume has partially recovered in 2024–25 as rates stabilize, but the exit backlog: portfolio companies that were supposed to exit in 2022–23 but couldn't: remains the defining challenge for the industry. The interest rate shock fundamentally changed buyout economics. At 2% interest rates, a 6× EBITDA leverage buyout with a 5% cost of debt required only modest EBITDA growth to generate strong returns.

KEY PLAYERS — KNOW THESE NUMBERS

Blackstone
$1.1T AUM · largest alternative asset manager globally · BREIT = $60B+ real estate vehicle.

KKR
$600B+ AUM · 50+ years of buyout history · Global Atlantic acquisition = insurance float. The firm that invented the leveraged buyout.

Apollo Global Management
$650B+ AUM · Athene (insurance) = majority of AUM · credit-first strategy. Apollo has been the most aggressive in using insurance float to build a massive credit platform: a

Bain Capital
$185B+ AUM · private equity, credit, real estate, life sciences. Built on deep operational value creation.

Carlyle Group
$430B+ AUM · government/defense focus · PE, credit, infrastructure. Defense and government services exposure differentiates Carlyle from peers.

WHAT TO WATCH

The exit backlog and secondary market solutions
The 2022-2024 exit drought left PE firms holding assets beyond typical hold periods, compressing DPI and forcing GP-led secondaries for liquidity.

Operational value creation replacing financial engineering
Rising rates compressed leverage and multiple expansion returns, making EBITDA growth through revenue improvement and cost reduction the only source of PE returns.

Retailization of alternatives: PE products for individual investors
Evergreen and interval fund structures make PE accessible to high-net-worth individuals, reshaping GP fundraising and creating a large new distribution channel.

AI transforming deal sourcing and due diligence
AI tools compress due diligence timelines through faster market mapping and benchmarking, letting PE firms evaluate more deals without proportional headcount growth.

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

EV/EBITDA Multiple *Benchmark: Buyout entry: 8–14× (sector dependent)*
Enterprise value divided by EBITDA, the primary valuation metric for buyout targets and the benchmark for entry and exit multiple analysis.

Internal Rate of Return (IRR) *Benchmark: Target: 20–25%+ gross; 15–18%+ net to LPs*
The annualized return rate that equates the present value of all cash outflows with the present value of all cash inflows over the holding period.

MOIC (Multiple on Invested Capital) *Benchmark: Good: 2.5–3.5×; great: 3.5–5×; exceptional: 5×+*
Total distributions and residual value divided by total invested equity capital, measuring the absolute return on an investment regardless of time. A 2.5-3.

Leverage (Debt/EBITDA) *Benchmark: Typical LBO: 4–6× EBITDA; stressed: 6–7×*
Total debt at acquisition divided by LTM EBITDA, measuring the financial risk embedded in the capital structure at entry.

EBITDA Margin Expansion *Benchmark: Target: 200–500bps over hold period*
The change in EBITDA as a percentage of revenue between entry and exit, measuring the operational value creation component of total return.

Weighted Average Cost of Capital (WACC) *Benchmark: PE portfolio cos: 8–12%; higher for leveraged*
The blended required return on capital weighted by the proportion of debt and equity in the capital structure, used as the discount rate in DCF valuation.

CORE FRAMEWORK: THE LBO RETURN BRIDGE

→ EBITDA Growth: growing the operating earnings of the portfolio company. Can come from organic revenue growth, pricing improvement, cost reduction, or add-on acquisitions.

→ Multiple Expansion: selling the business at a higher EV/EBITDA multiple than the entry multiple. Requires either improving business quality (better margins, more recurring revenue, lower churn) or favorable market timing. Least reliable return driver.

→ Debt Paydown (Deleveraging): using free cash flow to reduce debt, which increases equity value dollar-for-dollar. At 5x leverage, a $10M EBITDA business with $50M of debt: paying down $20M of debt increases equity value by $20M with no operational change.

→ The Return Math: Entry Equity equals Entry EV minus Entry Debt. Exit Equity equals (Exit EBITDA multiplied by Exit Multiple) minus Remaining Debt. MOIC equals Exit Equity divided by Entry Equity. IRR adjusts for hold period: 5-year holds target 20-25% IRR.

Every LBO return comes from exactly three sources: EBITDA growth, multiple expansion, and debt paydown. In every PE case, your first job is to quantify how much each driver contributes and which one the investment thesis most depends on.

HOW TO APPROACH CASES IN THIS INDUSTRY

PE Due Diligence (Commercial DD)
Commercial due diligence assesses market size and growth, the target's competitive position, and the sustainability of its revenue and margin profile.

Portfolio Company Profitability / 100-Day Plan
The 100-day plan sequences value creation initiatives by speed-to-cash and implementation risk.

Exit Strategy / Equity Story
Exit timing analysis balances the current multiple environment against the company's forward earnings trajectory.

Buy-and-Build / Add-On Acquisition Strategy
Buy-and-build strategy requires a platform with scale advantages that make smaller add-on acquisitions more valuable inside the platform than as standalone companies.

Infrastructure & Real Estate

Airports · Toll Roads · Infrastructure PE · Data Centers · CRE

MARKET OVERVIEW

The G20 estimates a $106T global infrastructure investment gap over the next 15 years across transportation, energy, water, and digital infrastructure. The U.S. alone needs $2.6T in infrastructure investment by 2029 according to the ASCE. The IIJA ($550B in new infrastructure spending) is the largest federal infrastructure program since the Interstate Highway System, generating consulting work across every infrastructure sub-sector. The most strategically important infrastructure story right now is the AI data center buildout. Microsoft, Google, Amazon, and Meta are collectively planning 50–100GW of new data center capacity through 2030: requiring more power than many mid-sized countries. Data centers are now classified as "critical infrastructure" by the federal government, and the infrastructure PE firms (Blackstone, KKR, Brookfield, Macquarie) are competing fiercely for data center assets, hyperscale campuses, and the power generation and transmission assets that feed them.

KEY PLAYERS — KNOW THESE NUMBERS

Blackstone Real Estate
$336B real estate AUM · BREIT $60B+ · largest private real estate investor globally. Scale creates information advantages, off-market deal access, and operational

Brookfield Asset Management
$1T+ AUM · infrastructure = $170B · renewable power = $100B · permanent capital vehicles.

Prologis
$120B+ AUM · 1.2B sq ft industrial · 7,200+ customers · largest industrial REIT globally. The e-commerce logistics beneficiary.

Equinix
$8.7B revenue · 260+ data centers · 50+ countries · colocation model. The world's largest data center operator and the backbone of cloud interconnection.

American Tower
$10B revenue · 225,000+ tower sites · 25+ countries · 5G upgrade cycle. Cell towers are the most defensive infrastructure asset: 10+ year leases, 3% annual escalators, and

WHAT TO WATCH

Data center power constraint is the defining infrastructure bottleneck
Power availability and interconnection timelines are the binding constraint on data center development, and sites with existing grid access command valuation

Office-to-residential conversion at scale
Office vacancies above 20% drive conversion programs, but economics at $300-500 per square foot are often marginal without substantial tax incentives or zoning

Infrastructure PE institutional capital flood
Infrastructure has attracted $1T+ in committed capital, driving core valuations to 20-25x EBITDA and compressing prospective returns for buyers at current prices.

IIJA implementation: $550B being deployed
IIJA's $550B is deploying into roads, broadband, and grid modernization over 5-7 years, creating sustained demand for engineering, construction, and materials

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Capitalization Rate (Cap Rate) *Benchmark: Industrial: 4–5.5%; office: 6–9%; data center: 5–7%*
Net operating income divided by asset value, measuring the unleveraged yield on a real estate or infrastructure investment.

IRR / Equity Multiple (Infrastructure) *Benchmark: Infrastructure: 8–12% IRR; infra PE: 12–15%*
Levered IRR is the return earned by equity investors after debt service; equity multiple is the total equity distributions divided by invested equity.

Debt Service Coverage Ratio (DSCR) *Benchmark: Infrastructure project finance: 1.3–1.5×*
Cash available for debt service divided by total debt service (principal plus interest), measuring the ability to service project finance debt from operating cash flows.

NOI Margin (Real Estate) *Benchmark: Industrial: 65–75%; multifamily: 55–65%; office: 50–65%*
Net operating income (revenue minus operating expenses before debt service and capital expenditures) divided by gross revenue, measuring the operating efficiency of a real estate asset.

Funds From Operations (FFO) *Benchmark: REIT payout ratio: 70–90% of FFO*
Net income adjusted for real estate depreciation and gains or losses on property sales, the primary cash earnings metric for REITs and real estate investment companies.

Weighted Average Lease Expiry (WALE) *Benchmark: Industrial: 4–7 years; office: 5–10 years; data center: 8–15 years*
The average remaining lease term across a property portfolio weighted by contracted rent, measuring the duration and stability of the income stream.

CORE FRAMEWORK: INFRASTRUCTURE DCF

→ Revenue Model: Volume multiplied by Rate multiplied by Inflation Escalator. For toll roads: daily traffic multiplied by average toll multiplied by annual escalator. For utilities: customer count multiplied by consumption multiplied by regulated tariff.

→ Operating Cost: fixed infrastructure costs plus variable maintenance, typically 30-40% of revenue at scale. Infrastructure has high fixed cost and low variable cost: high utilization drives dramatically better margins because incremental revenue is nearly

→ Capital Expenditure: maintenance capex (non-negotiable, preserves asset value) versus expansion capex (discretionary, growth investment). Maintenance capex in infrastructure is typically 5-15% of revenue. Expansion capex is evaluated on incremental IRR.

→ Financing: optimize between project finance debt and equity. Infrastructure assets support 60-70% debt financing at investment-grade rates because of their contracted cash flows and long asset lives.

→ Terminal Value and Concession End. For regulated utilities and perpetual infrastructure: terminal value is a perpetuity (Year N+1 FCF divided by WACC minus growth). For concessions: asset returns to government at contract end with no residual equity value.

Infrastructure valuation uses long-duration DCF rather than exit multiple analysis because the asset life and contracted cash flows are known.

HOW TO APPROACH CASES IN THIS INDUSTRY

Infrastructure Concession Bid / Acquisition Valuation
Concession valuation uses DCF on levered equity cash flows with a discount rate reflecting the contracted cash flow profile and residual value at concession expiry.

Real Estate Portfolio Strategy / Asset Allocation
Real estate portfolio strategy evaluates each asset on cap rate (NOI divided by value), occupancy trend, lease maturity profile, and capital expenditure requirements.

Data Center Investment Decision
Data center investment analysis centers on power availability, lease-up trajectory, and the financing structure.

Office Portfolio Restructuring / Adaptive Reuse
Structural office vacancy above 20% in major U.S. CBDs requires a building-by-building decision framework: hold and reposition, convert to residential or life science, or sell at

Media, Telecom & Exchanges

Streaming · Social Media · Telecom · Financial Exchanges

MARKET OVERVIEW

Global advertising spend exceeded $1T for the first time in 2024, with digital advertising (Google, Meta, Amazon) capturing 70%+ of growth. Linear TV has lost 25M+ U.S. subscribers since 2020 and is in structural decline: cord-cutting accelerated during COVID and hasn't reversed. Streaming has won the format battle: Netflix, Disney+, Max, Peacock, and Paramount+ collectively have 600M+ global subscribers. But streaming profitability remains elusive: only Netflix (operating margin ~25%) and Apple TV+ (treated as an ecosystem feature, not a P&L) generate material profit. The content cost treadmill ($15–20B annually for Netflix alone) is the fundamental economics problem.

KEY PLAYERS — KNOW THESE NUMBERS

Netflix
$39B revenue · 300M+ subscribers · ~25% operating margin · ad-supported tier scaling. The only pure-play global streaming company.

Meta Platforms
$164B revenue · ~45% operating margin · 3.3B daily active users · $40B+ in ad revenue. The most profitable digital ad platform.

T-Mobile US
$79B revenue · 120M+ customers · FWA adding 1.5M+ home internet customers/quarter. The best-performing major telecom.

CME Group
$6.1B revenue · ~60% operating margin · $1T+ daily notional volume · near-monopoly in key derivatives. The most capital-efficient exchange.

Spotify
$14B revenue · 650M+ MAU · 240M+ paid subscribers · podcast and audiobook expansion. The dominant audio streaming platform.

WHAT TO WATCH

Streaming consolidation: the second phase begins
Streaming platforms are consolidating into bundles because standalone economics at current content costs are unsustainable for all but Netflix and Apple.

TikTok ban/divestiture and its advertising implications
A TikTok divestiture or ban redirects $12-15B in U.S. ad spend to Meta, YouTube, and Snapchat.

Fixed wireless access disrupting cable broadband
T-Mobile and Verizon FWA are adding 1M+ broadband net adds per quarter from cable incumbents, proving wireless can compete with wireline at competitive price points.

AI-generated content and its impact on media economics
AI will commoditize news, explainer, and basic entertainment content, compressing revenue per unit and accelerating bifurcation between premium IP and commodity

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Average Revenue Per User (ARPU) *Benchmark: Netflix: ~$17/mo (U.S.); Meta: ~$60/yr (global DAU); Telecom: $50–55/mo (wireless)*
Total revenue divided by the number of active subscribers or users, measuring monetization efficiency per customer.

Churn Rate *Benchmark: Streaming: 2–5%/month; telecom postpaid: 0.8–1.2%/month*
Monthly or annual percentage of subscribers who cancel or do not renew, measuring the rate of subscriber base attrition.

Content Cost per Subscriber *Benchmark: Netflix: ~$55/year/subscriber; Disney+: ~$40–50*
Total content acquisition and production expense divided by average subscribers, measuring the unit economics of the content investment required to retain a subscriber.

EBITDA per MHz-Pop (Telecom) *Benchmark: Varies significantly by spectrum band and geography*
EBITDA divided by spectrum holdings measured in MHz times population covered, a capital efficiency metric for wireless carriers reflecting the productivity of their spectrum assets.

Average Daily Volume / Market Share (Exchanges) *Benchmark: CME: ~$1T+ notional/day; NYSE: ~35% U.S. equity volume*
Average daily transaction volume processed by an exchange or financial infrastructure platform, measured in shares, contracts, or notional value, and the platform's share of total market volume.

Capture Rate (Exchanges) *Benchmark: Equities: $0.03–0.05/share; derivatives: $1–3/contract*
Revenue per unit of trading volume (per share, per contract, or per $1M notional), measuring the pricing efficiency of an exchange's fee structure.

CORE FRAMEWORK: THE STREAMING UNIT ECONOMICS MODEL

→ Revenue per Subscriber (ARPU): weighted average across tiers (ad-supported, standard, premium). ARPU has expanded 20-30% at major streamers through price increases and tier migration.

→ Content Cost: largely fixed regardless of subscriber count, which creates powerful scale economics. Netflix spends $17B annually on content: that spend divided by 300M subscribers is $57/subscriber/year, a fixed cost that falls rapidly with subscriber growth.

→ Contribution Margin per Subscriber: ARPU minus variable costs (payment processing, streaming infrastructure, customer service) minus content cost amortized per subscriber. At scale, streaming contribution margins should reach 25-35% of revenue.

→ Subscriber Acquisition Cost (SAC): total marketing spend divided by net new subscribers. For mature platforms, SAC has risen sharply as easy growth is exhausted.

→ The Competitive Moat: content library depth, exclusive IP, and switching costs determine churn. Monthly churn above 3% means the platform loses 30%+ of subscribers annually and must replace them with expensive acquisition spend just to maintain scale.

Streaming is a scale business where fixed content costs get spread across more subscribers. The winning platforms achieve a self-reinforcing cycle: scale funds better content, better content reduces churn, lower churn funds more content investment.

HOW TO APPROACH CASES IN THIS INDUSTRY

Streaming Strategy / Content Investment Decision
Streaming economics are driven by subscriber acquisition cost, content cost per subscriber, and churn rate.

Telecom Merger / Spectrum Strategy
Telecom M&A value comes from network cost synergies, spectrum portfolio consolidation, and the elimination of competing capital expenditure programs.

Advertising Platform Revenue Decline
Advertising revenue analysis requires segmenting by format (display, video, search, social) and buyer type (brand versus performance).

Exchange / Financial Infrastructure M&A
Exchange and financial infrastructure M&A creates value through transaction volume leverage on fixed-cost technology infrastructure and cross-selling of data and analytics products.

Healthcare Services

Dental/DSOs · Behavioral Health · Urgent Care · Home Health · Surgery Centers

MARKET OVERVIEW

Healthcare services: the delivery side of healthcare rather than insurance or manufacturing: is the most private equity-active sector in the U.S. economy by deal count. The investment thesis is consistent across sub-sectors: fragmented markets of independent operators (dental practices, behavioral health clinics, urgent care centers, home health agencies) can be consolidated under a professional management platform, standardized operationally, and sold at a premium multiple to larger strategic buyers or public markets. The PE-backed "platform + add-on" playbook has been applied to virtually every healthcare services sub-sector. Dental (DSO: Dental Service Organization) is the most mature PE healthcare services segment. The U.S. dental market is $175B, with DSOs now controlling ~35% of practices vs.

KEY PLAYERS — KNOW THESE NUMBERS

Heartland Dental
800+ offices · ~$2B revenue · KKR-backed · largest DSO in the U.S. by office count. The DSO model: centralize back-office (billing, HR, procurement), let dentists focus on

Acadia Healthcare
$3.3B revenue · 260+ behavioral health facilities · Medicaid-heavy · DOJ investigation (2024). The dominant behavioral health platform.

U.S. Physical Therapy
610+ outpatient clinics · staffing-driven model · therapist productivity = the key metric.

Surgery Partners
180+ ASCs · $3B+ revenue · physician partnership model · GI and orthopedics concentration.

Envision / TeamHealth
$10B+ combined revenue · ED, anesthesia, and hospitalist staffing. PE-backed physician staffing under pressure from the No Surprises Act limiting out-of-network billing and

WHAT TO WATCH

FTC and DOJ scrutiny of PE healthcare rollups intensifying
FTC and DOJ challenges to physician practice acquisitions require PE buyers to analyze competitive market thresholds before committing to healthcare rollup

Behavioral health parity enforcement and commercial coverage expansion
Federal parity enforcement is improving payer mix for behavioral health providers dependent on Medicaid, making commercial coverage expansion a core value driver.

GLP-1 drugs reshaping bariatric and metabolic service lines
GLP-1 adoption is reducing referrals for bariatric surgery and diabetes programs, compressing volume in service lines where many operators have significant capacity.

Dental DSO maturation and margin pressure
DSO buyers now prioritize same-store production growth over practice count, requiring organic performance underwriting rather than pure multiple arbitrage.

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

EBITDA per Location *Benchmark: Dental: $150K–$350K; ASC: $1M–$3M; urgent care: $100K–$250K*
Total EBITDA divided by number of clinics, practices, or facilities, measuring per-site profitability in a multi-location healthcare services business.

Payer Mix *Benchmark: Commercial pays 1.5–3× Medicaid rates in most services*
The percentage breakdown of revenue from commercial insurance, Medicare, and Medicaid payers, which pay materially different rates for equivalent services.

Provider Productivity *Benchmark: Dental: $550K–$850K revenue/dentist; PT: 10–14 visits/therapist/day*
Average number of patient visits completed per provider per day or per week, measuring clinical throughput and scheduling efficiency.

Revenue per Visit / Net Revenue per Encounter *Benchmark: Dental: $350–$500/visit; PT: $75–$150/visit; urgent care: $175–$350/visit*
Total net patient revenue divided by total patient visits, measuring the average revenue generated per clinical encounter after contractual adjustments and denials.

Denial Rate *Benchmark: Best-in-class: <5%; average: 8–12%; poor: 15%+*
Percentage of submitted claims denied by payers on first submission, measuring revenue cycle efficiency and billing quality.

Staff Turnover Rate *Benchmark: Healthcare services avg: 25–35%; best-in-class: 15–20%*
Number of clinical and administrative staff departures divided by average headcount, measuring workforce stability and the cost burden of replacing trained employees.

CORE FRAMEWORK: THE HEALTHCARE SERVICES PLATFORM VALUE CREATION MODEL

→ Platform Acquisition: acquire the right anchor practice. Ideal platform: strong clinical reputation, fragmented local market, non-physician-owned, and EBITDA of $3-8M with clear operational improvement opportunity.

→ Revenue Cycle Optimization: the fastest margin improvement lever. Most independent practices leave 5-10% of net revenue on the table through billing errors, undercoding, slow collections, and poor payer contract management.

→ Procurement and G&A Leverage: scale benefits that accrue as the platform grows from 5 to 50 locations. Medical supplies, malpractice insurance, EMR licensing, and administrative staffing all get cheaper per location. Savings of 2-4 EBITDA points are typical.

→ Add-On Acquisitions at Lower Multiples: buy independent practices at 4-7x EBITDA, add them to a platform trading at 10-14x. The multiple arbitrage is pure equity value creation: a practice acquired at 5x that is revalued at 12x creates 7x EBITDA of

→ Exit: strategic buyer premium or secondary PE sale. Strategic buyers (large health systems, insurers, national DSOs) pay 12-18x for platforms with scale and strong clinical metrics.

The PE healthcare services playbook follows the same value creation logic across dentistry, behavioral health, dermatology, and physical therapy: centralize back-office functions, improve revenue cycle, and grow through add-ons at multiple arbitrage.

HOW TO APPROACH CASES IN THIS INDUSTRY

Healthcare Services Rollup / Add-On Evaluation
Healthcare rollup strategy requires assessing the platform's ability to extract cost synergies from centralized billing, contracting, and back-office without disrupting clinical

Revenue Cycle Improvement
Revenue cycle performance is measured by denial rate, days in accounts receivable, and net collection rate versus contractual allowables.

Site-of-Care Migration (Hospital to ASC)
Site-of-care migration from hospital outpatient to ambulatory surgery centers reduces cost per episode while improving patient experience and physician satisfaction.

Behavioral Health Platform Growth Strategy
Behavioral health demand has grown 30-40% since 2020 while provider capacity has grown only 10-15%, creating a structural supply shortage that supports pricing power and high

Defense & Government

Defense Primes · GovCon IT · Intelligence & Cyber · International FMS

MARKET OVERVIEW

The FY2026 Department of Defense budget request of $961.6B is the largest peacetime appropriation request in U.S. history. The strategic drivers: Russia's invasion of Ukraine demonstrated the lethality of modern conventional warfare and exposed NATO's munitions production gaps; China's military buildup (the PLA Navy is now larger than the U.S. Navy by ship count) is driving Pacific deterrence investment at an unprecedented scale; and non-state actors and cyber threats require entirely new investment categories. Defense spending is the closest thing to a guaranteed growth market in business: political consensus to fund defense is broad, bipartisan, and durable. The five defense primes: Lockheed Martin, RTX (Raytheon Technologies), Northrop Grumman, General Dynamics, and L3Harris: collectively hold $400B+ in backlog, representing 3–5 years of revenue visibility. This backlog durability is the defining characteristic of defense prime economics: unlike commercial aerospace or industrial companies, defense contractors rarely face sudden demand drops because their customers operate on multi-year procurement and appropriations cycles.

KEY PLAYERS — KNOW THESE NUMBERS

Lockheed Martin
$71B revenue · F-35 = $20B+ annually · 14,000+ F-35s on order globally · missile defense and space. The most important defense prime.

RTX (Raytheon Technologies)
$80B revenue · Patriot missile system backlog surged post-Ukraine · Pratt & Whitney engine issues. The missile and aerospace systems leader.

Booz Allen Hamilton
$11B+ revenue · 70%+ DoD and intelligence community revenue · AI and cyber focus · ~4% EBITDA margin. The largest pure-play government services firm.

Northrop Grumman
$41B revenue · B-21 Raider bomber · Space Systems = largest segment · GBSD nuclear missile program. The space and nuclear deterrence specialist.

General Dynamics
$42B revenue · Gulfstream = 30%+ of revenue · combat vehicles and nuclear submarines. Unique in combining luxury business jets (Gulfstream) with Abrams tanks and

WHAT TO WATCH

Autonomous systems and AI weapons: the next generation of defense investment
DOD is shifting procurement toward autonomous drones and AI targeting systems. Assess prime contractor vs.

DOGE and defense budget scrutiny
DOGE scrutiny targets defense overhead and support contracts, creating pressure on lower-priority programs while protecting production contracts on critical systems.

Munitions production gap: industrial base at capacity
Munitions production cannot sustain allied aid and domestic readiness simultaneously, driving long-term contracts to expand artillery, missile, and ammunition

Space as a contested military domain
DOD space and cyber spending grows 8-12% annually vs. 3-5% overall, driven by China and Russia competition for orbital and electromagnetic spectrum superiority.

KEY METRICS — DEFINITION + HOW TO USE IN A CASE

Book-to-Bill Ratio *Benchmark: >1.0× = growing backlog; <1.0× = shrinking*
New contract awards (bookings) divided by revenue recognized in the same period, measuring whether the backlog is growing, stable, or declining. A sustained book-to-bill above 1.

Operating Margin by Contract Type *Benchmark: Cost-plus: 8–12%; fixed-price development: risk of losses; fixed-price production: 10–15%*
EBIT margin segmented by contract type: cost-plus (cost-reimbursable) contracts typically generate 8-10% margins; fixed-price contracts target 10-15% but carry EAC overrun risk.

Funded Backlog vs. Total Backlog *Benchmark: Funded typically = 12–18 months of revenue*
Funded backlog is the dollar value of contract awards for which Congress has appropriated funds and the company has a binding obligation to perform.

Clearance-to-Employee Ratio *Benchmark: GovCon IT: 70–90% cleared workforce*
The percentage of a defense contractor's workforce holding active security clearances, measuring the capacity to staff classified programs.

Revenue per Defense Budget Dollar *Benchmark: Top 5 primes: capture ~25–30% of total DoD procurement*
Company revenue divided by total relevant defense budget authority, measuring capture rate of addressable government spending in the company's core markets.

Days to Award / Protest Rate *Benchmark: Major programs: 12–36 months from RFP to award*
Average time from RFP release to contract award, and the frequency of bid protests (losing bidders challenging award decisions at the GAO or Court of Federal Claims).

CORE FRAMEWORK: THE DEFENSE PROGRAM LIFECYCLE

→ Requirements Definition and Technology Maturation (Pre-Milestone A): the government defines capability requirements and the prime contractor matures the technology to TRL 6+ (demonstrated in relevant environment).

→ Engineering and Manufacturing Development (Milestone B to C): full system development. Contracts shift from cost-plus CPFF to cost-plus CPIF, with incentive fees tied to performance against cost, schedule, and technical targets.

→ Low-Rate Initial Production (LRIP): limited production while the system continues testing. Contracts begin transitioning toward fixed-price.

→ Full Rate Production: the profitable phase. Fixed-price contracts dominate, cost structure is known, and manufacturing learning curve improvements drive margin expansion year over year.

→ Sustainment and Modernization (Operations and Support): the longest and most profitable phase, lasting 20-40 years. Spare parts, depot maintenance, software upgrades, and training generate predictable high-margin revenue that continues long after production

Defense programs follow the Defense Acquisition System lifecycle. The financial profile inverts across phases: early phases burn cash at low margins, production phases generate reliable margins, and sustainment generates the highest long-term returns per

HOW TO APPROACH CASES IN THIS INDUSTRY

Defense Prime Bid Strategy (Solo vs. Consortium)
Defense bid strategy balances win probability against contract economics: cost-plus contracts reduce risk but limit margin upside; fixed-price contracts offer higher margins but

Defense Program Cost Overrun / Recovery
When a fixed-price program's Cost Performance Index falls below 0.9, the Estimate at Completion will almost certainly exceed the contract value, meaning the company absorbs losses.

GovCon IT Modernization / Digital Strategy
Government IT modernization contracts require demonstrating the ability to migrate legacy systems while maintaining continuous operations; downtime risk is a disqualifying factor for

International Defense Sales / FMS Strategy
Foreign Military Sales and direct commercial sales extend production learning curves past U.S. procurement peaks, reducing unit costs for both domestic and international buyers.