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THE UNIVERSITY OF UTAH

CBRE
Capital Builders Group
Kris, Fynn
11/11/24

Executive Summary

Investment Strategy

- Fundamental analysis to identify an undervalued Real Estate company with strong growth potential.

Investment Pitch

- Buy 100 shares of CBRE.

Target Price vs Analysis Price

- 147.23 (Target) − 130.18 (analysis) = $17.05 (+13.10%)

Rationale

- CBRE's dominant market position, consistent financial growth, and robust industry outlook make it a compelling buy.

Company Overview

Founding

- CBRE was founded in 1906 as Tucker, Lynch & Coldwell in San Francisco, initially focused on real estate brokerage. It expanded globally, rebranding as CB Richard Ellis (CBRE) in 1998 after acquiring REI Limited, and has been headquartered in Dallas, Texas, since 2020.

Business model

- CBRE's business model integrates a comprehensive suite of real estate services—including brokerage, property management, and consulting—with industry-leading research, providing clients with detailed market insights and setting it apart in guiding informed real estate decisions globally.

Market Position

- In 2023, CBRE led the U.S. commercial real estate market with a 14.2% share across all property types, surpassing its nearest competitor by 620 basis points. (CBRE) Globally, CBRE maintained its leadership position with a 24% market share, marking its 13th consecutive year at the top.

Global Reach

- CBRE operates in over 100 countries, providing comprehensive real estate services across the Americas, Europe, the Middle East, Africa, and Asia-Pacific regions. With more than 500 offices worldwide, CBRE serves a diverse range of clients, including over 95% of the Fortune 100 companies.

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Investment Thesis

Company Name:	Coldwell Banker Richard Ellis (CBRE)	**Analysis Price:**	130.18
Ticker:	CBRE	**Analysis Date:**	11/01/24
Sector:	Real Estate	**Current Price:**	136.08
Industry:	Real Estate Services	**Target Price:**	147.23
Shares Out.:	360 Million	**Monthly Volume:**	~11 Million
Market Cap.:	38 Billion	**Beta (5y monthly):**	1.39

Investment Thesis: BUY 100 Shares of CBRE

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Annual Performance History

%	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CBRE	33.1	-0.9	-10.4	38.73	-7.9	53.02	2.38	74.71	-29.08	20.95	46.18
SP RE	28.0	0.2	-1.4	8.1	-5.1	27.0	-5.88	44.57	-27.6	6.9	9.62
SPX	11.8	-1.2	7.7	18.9	-7.8	29.6	15.37	28.2	-20.0	23.9	25.7

Yahoo Finance

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5Y Total Return with S&P and S&P RE Sector

Cumulative Total Return (Gross Dividends)
- CBRE US Equity 144.4496
- SPX Index 102.621
- S5RLST Index 36.4145

10Y Total Return with S&P and S&P RE Sector

Cumulative Total Return (Gross Dividends)
- CBRE US Equity 407.0995
- SPX Index 284.563
- S5RLST Index 139.3231

407.0995
284.563
139.3231

CBRE US Equity (CBRE Group Inc) Daily 02JAN2014-05NOV2024   Copyright© 2024 Bloomberg Finance L.P.   05-Nov-2024 11:09:24

CBRE Comp Comparison

Cumulative Total Return (Gross Dividends)
- CBRE US Equity   473.7649
- NMRK US Equity   19.6095
- CWK US Equity   −10.7647
- JLL US Equity   197.1855
- CIGI CN Equity   649.854

CBRE US Equity (CBRE Group Inc) Daily 02JAN2014-05NOV2024   Copyright© 2024 Bloomberg Finance L.P.   05-Nov-2024 17:01:59

CBRE Comp Comparison

	CBRE	Colliers	JLL	C&W
Market Value	41.64B	7.78B	12.77B	3.42B
Enterprise Value	46.42B	9.99B	17.17B	6.01B
EV/EBITDA	23.64	16.26	16.17	10.8
Revenue	34.31B	4.56B	22.50B	9.37
FCF	913.00M	198.18M	411.90M	247.30M
ROA	4.12%	2.68%	2.87%	1.17%
ROC	6.61%	4.49%	6.63%	1.73%
Total D/E	0.523	1.111	0.486	2.125

Industry Analysis

- CBRE holds:

  o 24% market share across all property types globally

  o Top spot in commercial real estate investment sales globally – 13th year straight

Figure 2

Revenue expectations for global respondents reverse course in the 2025 survey

What is your company's revenue forecast for the remainder of the year compared to last year?

Increase – 80% (2022), 40% (2023), 34% (2024), 88% (2025)
12% (2023), 6% (2024), 7% (2025)
48% (2023), 60% (2024)

No change – 11% (2022)

Decrease – 9% (2022), 5% (2025)

2022   2023   2024   2025
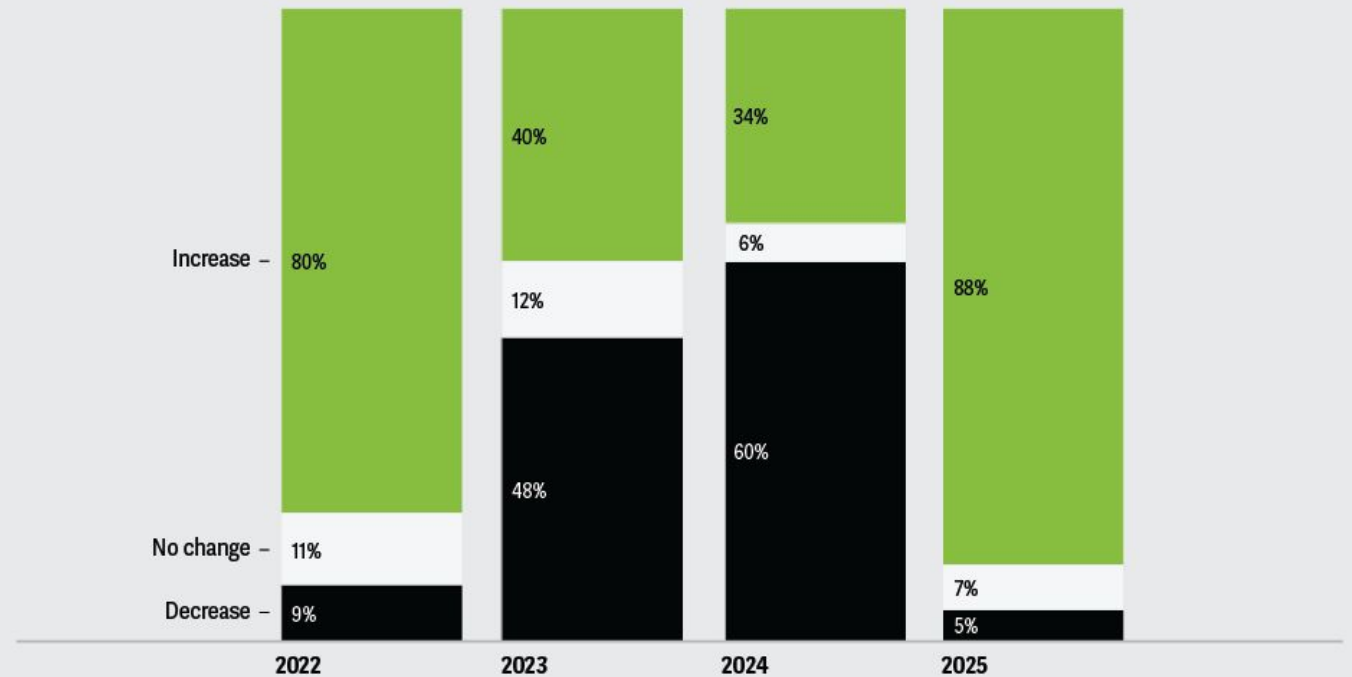
Note: Results represent expectations for the remainder of the current year.

Sources: Deloitte 2025 commercial real estate outlook survey; Deloitte 2024 commercial real estate outlook survey; Deloitte 2023 commercial real estate outlook survey; Deloitte 2022 commercial real estate outlook survey.

Deloitte. | deloitte.com/us/en/insights/research-centers/center-for-financial-services.html
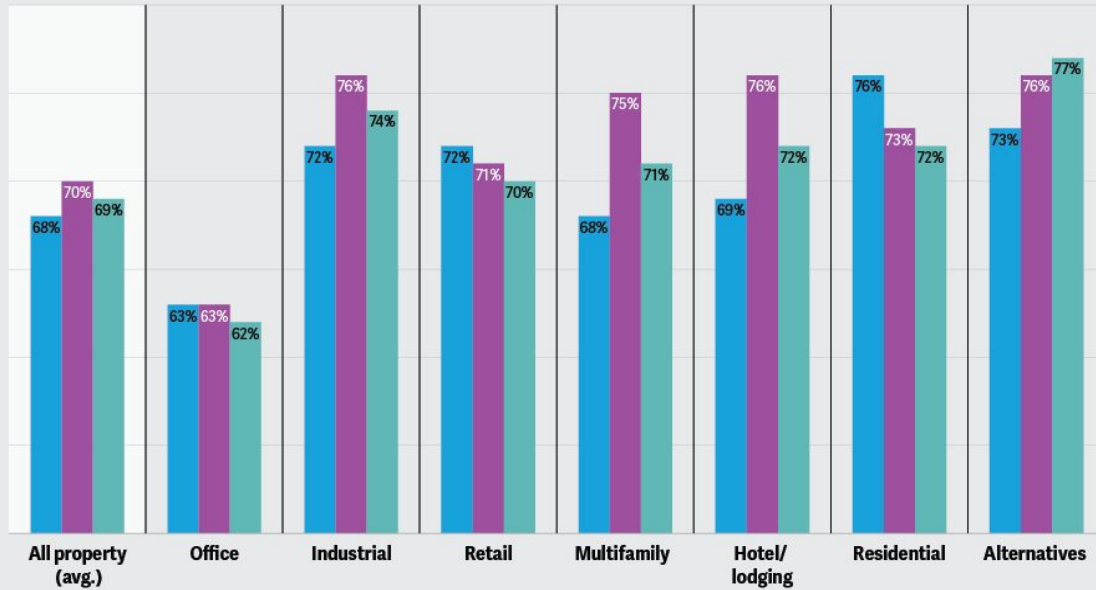
Earnings Analysis
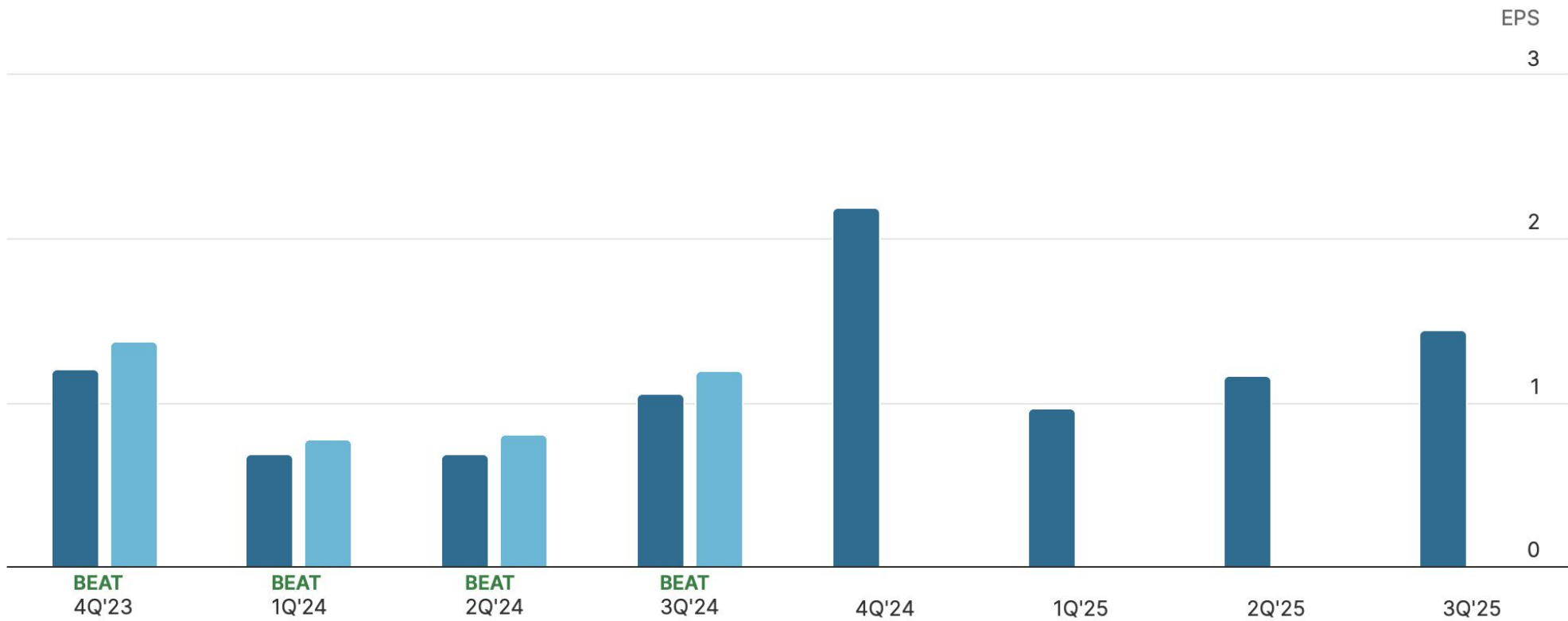
Industry Analysis

Figure 4

Respondents expect improvements in real estate fundamentals across property sectors

How do you expect each of the following aspects of real estate fundamentals to change for the property type you specialize in over the next 12 to 18 months?

● Leasing ● Capital markets ● Lending

	Leasing	Capital markets	Lending
All property (avg.)	68%	70%	69%
Office	63%	63%	62%
Industrial	72%	76%	74%
Retail	72%	71%	70%
Multifamily	68%	75%	71%
Hotel/lodging	69%	76%	72%
Residential	76%	73%	72%
Alternatives	73%	76%	77%

Note: Leasing includes expectations for growth in rental rates, leasing activity, and vacancies; capital markets include expectations for growth in property prices and transaction activity; lending includes expectations for cost of capital and capital availability; alternatives include digital economy, life sciences, and self-storage properties; residential includes single family rentals, senior housing, and student housing properties.

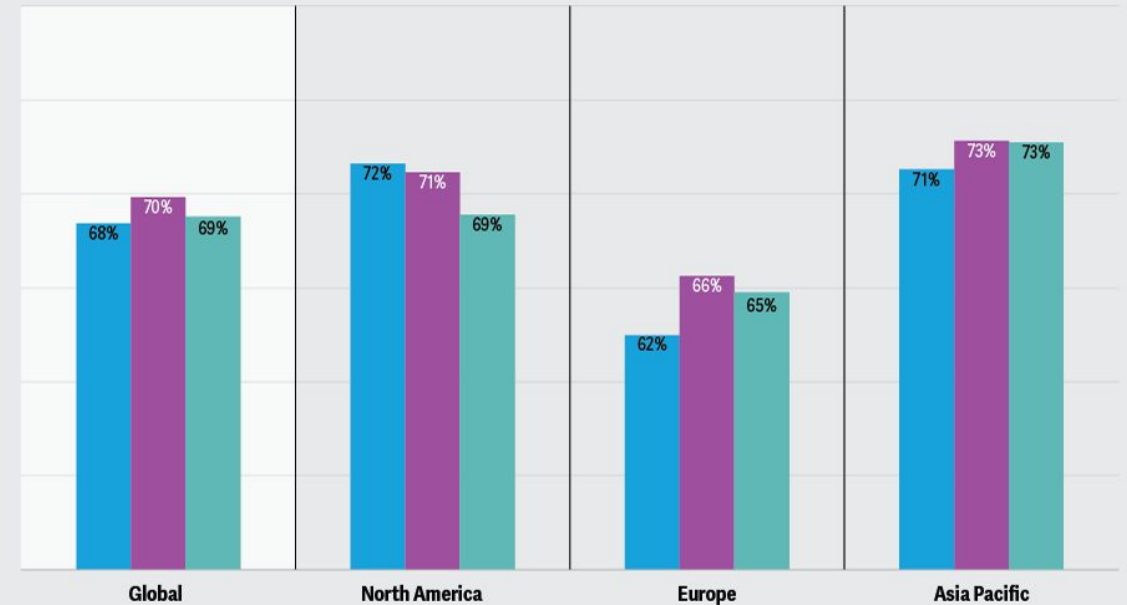Source: Deloitte 2025 commercial real estate outlook survey.

Deloitte. | deloitte.com/us/en/insights/research-centers/center-for-financial-services.html

Figure 5

Respondents expect improvements in real estate fundamentals across global regions

How do you expect each of the following aspects of real estate fundamentals to change for the property type you specialize in over the next 12 to 18 months?

● Leasing ● Capital markets ● Lending

	Leasing	Capital markets	Lending
Global	68%	70%	69%
North America	72%	71%	69%
Europe	62%	66%	65%
Asia Pacific	71%	73%	73%

Note: Leasing includes expectations for growth in rental rates, leasing activity, and vacancies; capital markets include expectations for growth in property prices and transaction activity; lending includes expectations for cost of capital and capital availability.

Source: Deloitte 2025 commercial real estate outlook survey.

Deloitte. | deloitte.com/us/en/insights/research-centers/center-for-financial-services.html

Industry Analysis

CBRE has a history of acquisitions (49) to expand into other markets or diversify.

Direct Line Global – provides access to:
- $30B data center market (projected to grow at 16%/year through 2028)
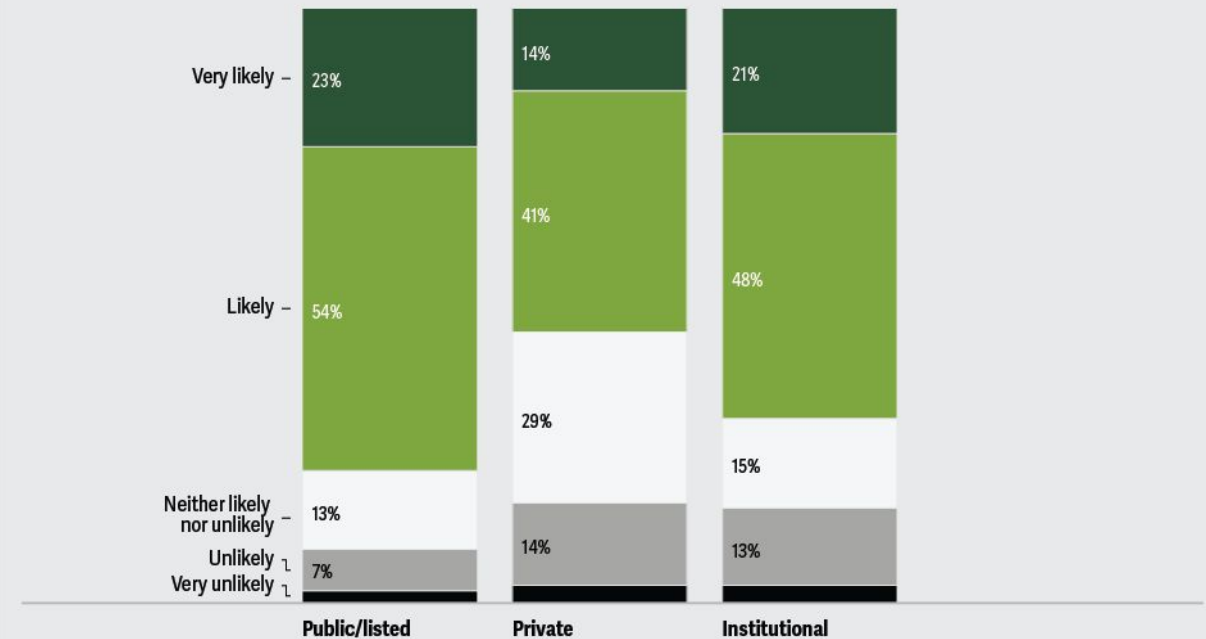- Infrastructure and technical solutions

J&J Worldwide Services – provides access to:
- Public sector clients (US DOD)
- Healthcare and military sectors

Figure 9

Respondents from public and institutional organizations are more likely to increase M&A in 2025

How likely is it that your company will increase its mergers and acquisitions activity in the next 12 to 18 months?

	Public/listed	Private	Institutional
Very likely	23%	14%	21%
Likely	54%	41%	48%
Neither likely nor unlikely	13%	29%	15%
Unlikely / Very unlikely	7%	14%	13%

Note: Totals may not add up to 100% because of rounding.

Source: Deloitte 2025 commercial real estate outlook survey.

Deloitte. | deloitte.com/us/en/insights/research-centers/center-for-financial-services.html

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SWOT Analysis

Strengths

- **Growth**
- **Diversification**
- **Efficiency**
- **Economies of Scale**

Weaknesses

- **Dependence on the market**
- **Real estate cyclicality**
- **Bureaucratic decision-making**

Opportunities

- **International Expansion**
- **Market upswing**
- **Technological advancement**

Threats

- **Market volatility**
- **Macroeconomic uncertainty**
- **Regulatory risks**

Valuation Assumptions

Valuation Date:	11/01/2024
Revenue Growth Method:	Custom
Rev. Growth Rate 2024E:	20%
Rev. Growth Rate 2025E:	14%
Rev. Growth Rate 2026E+:	11%

Growth Estimates

CURRENCY IN USD	CBRE
Current Qtr.	59.40%
Next Qtr.	14.10%
Current Year	29.20%
Next Year	21.00%
Next 5 Years (per annum)	11.00%
Past 5 Years (per annum)	3.47%

Valuation Model Outcomes

	Estimated Value Per Share	Model Weights
Unlevered DCF	$ 141.41	55%
Levered DCF	$ 159.10	40%
Comparable Company	$ 116.25	5%
Precedent Transaction	NA	0%
Dividend Discount	NA	0%

Valuation Target Price

Current Stock Price versus Scenarios

	Current	Bear	Base	Bull
Stock Price	130.18	137.29	147.23	157.59
Upside (Downside) $		7.11	17.05	27.41
Upside (Downside) %		5.46%	13.10%	21.06%

Chart: Current Stock Price versus Scenarios

Category	Bear	Spread
52 Week Low / High	68.72	136.06
Unlevered DCF	134.40	148.88
Levered DCF	149.82	168.99
Comparable Company	68.74	162.16

Legend: Bear | Spread | Bull | Current Stock Price | Target Price

Effect on the Portfolio
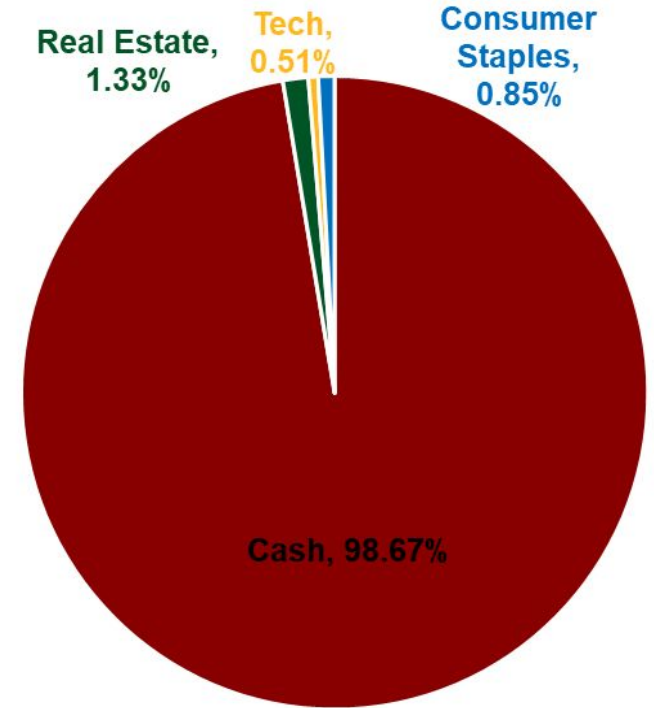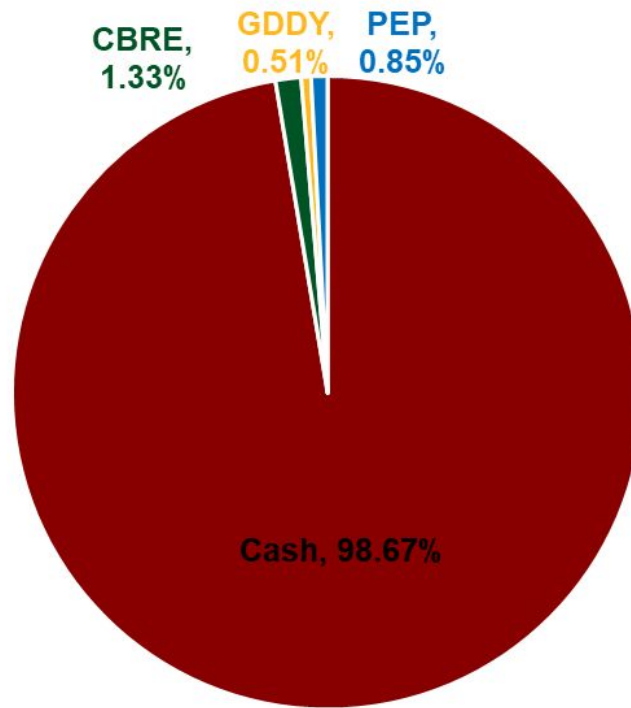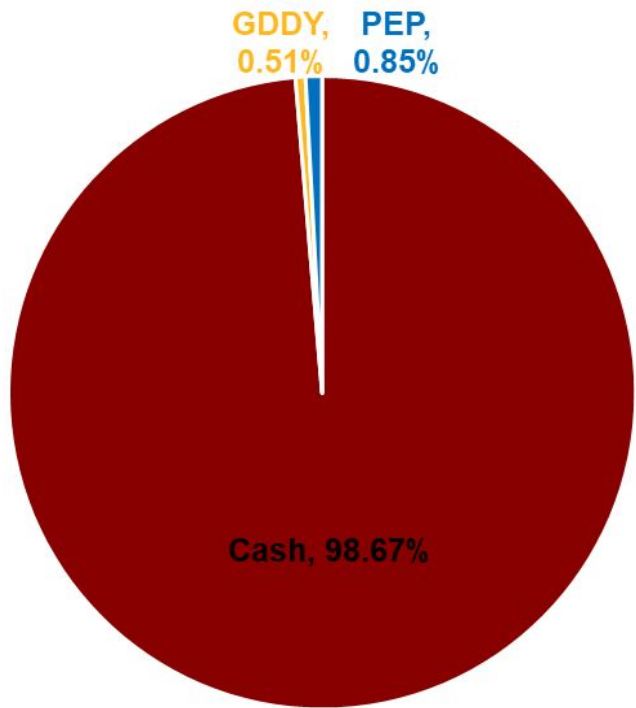
Portfolio	Exp. Return	St. Dev*	Beta*	Sharpe Ratio*	Idio. Risk*	Info. Ratio*
Existing	0.02%	0.26%	0.01	-45.28	-	-
CBRE	31.58%	30.38%	1.39	0.90	-	-
Adjusted	0.04%	0.35%	0.03	-26.39	-	-

Conclusion

Investment Thesis: BUY 100 Shares of CBRE (~$13,600)

- **Market Leadership:** CBRE is the world's largest commercial real estate services and investment firm by revenue, operating in over 100 countries.

- **Growth Potential:** Strong track record of revenue growth, strategic expansion, and earnings performance.

- **Valuation Upside:** Target price indicates potential upside based on our valuation model and positive market trends.

- **Operating Efficiency and Scale:** Strong market footholds and economies of scale allow CBRE to both bring in much more revenue and operate at a higher margin.

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Summary & Recommendation

Strategy Merits

- **Performance**

  [Summarize return highlights and how performance compares to benchmark]
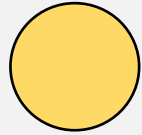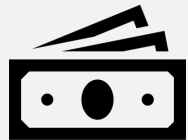
- **Risk**

  [Considerations that support strategy's risk profile]
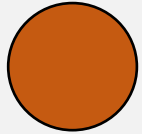
- **Effects on Portfolio**

  [Impact on portfolio metrics]

Action Plan

- **Recommendation: Yes or No**

  [If Yes, clearly state proposal (e.g., "Allocate $50k to purchase x amount of xyz shares); include rebalancing details if applicable]

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Overview of Valuation Models

FCF Firm - Perpetuity

FCF Firm - EBITDA

FCF Equity - Perpetuity

FCF Equity - EBITDA

Comparable Company

Dividend Discount

Discounted FCFF

Free Cash Flow to the Firm (FCFF):

Also called **Unlevered Free Cash Flow**, is a multi-step calculation used in a Discounted Cash Flow analysis to estimate Enterprise Value (total firm value). FCFF is a hypothetical figure, an estimate of what it would be if the firm was to have no debt.

Corporate Finance Institute: Cash Flow Guide

Discounted FCFE

Free Cash Flow to Equity (FCFE):

Also called **Levered Free Cash Flow**, is used in financial modeling to estimate the equity value of a firm. It only represents the cash flow available to equity investors (interest to debt holders has already been paid).

Corporate Finance Institute: Cash Flow Guide

Comparable Company Analysis

Comparable Company Analysis:

"**Comps**" for short, is a valuation methodology that looks at ratios of similar public companies and uses them to derive the value of another business. Comps is a relative form of valuation, unlike a Discounted Cash Flow (DCF) analysis, which is an intrinsic form of valuation.

Corporate Finance Institute: Comparable Company Analysis

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Dividend Discount Model

Dividend Discount Model (DDM):

A quantitative method of valuing a company's stock price based on the assumption that the current fair price of a stock equals the sum of all the company's future dividends discounted back to their present value.

Corporate Finance Institute: Dividend Discount Model

Key Terms

Performance Metrics

- **Alpha (α)**: Measures a strategy's performance relative to a benchmark. Positive alpha indicates outperformance.

- **Sharpe Ratio**: Risk-adjusted return based on total risk (Return - Risk-Free Rate) / Standard Deviation.

- **Sortino Ratio**: Similar to Sharpe, but only considers downside risk, ignoring positive volatility.

- **Information Ratio**: Measures returns above a benchmark relative to the tracking error.

- **Treynor Ratio**: Risk-adjusted performance based on beta (Return - Risk-Free Rate) / Beta.

Parameters

- **Market Cap**: Total value of a company's shares (Share Price × Total Shares Outstanding).

- **P/E Ratio**: Price-to-Earnings Ratio. Measures how much investors pay per dollar of earnings.

- **Rebalance**: Adjusting portfolio holdings to match the desired allocation (e.g., quarterly).

Risk Measures

- **Beta (β):** Measures sensitivity to market movements. A beta of 1 means the stock moves with the market.

- **Idiosyncratic Risk**: Risk unique to a specific asset, not due to market movements (e.g., company-specific events).

- **Systematic Risk**: Market-wide risk that affects all securities (e.g., interest rate changes).

- **Standard Deviation (σ)**: Measures volatility by showing how much returns deviate from the average.

- **Max Drawdown**: The maximum observed loss from peak to trough during a specific period.

- **SML (Small Minus Large)**: Measures the excess return of small-cap stocks over large-cap stocks.

- **HMB (High Minus Low)**: Measures the excess return of high book-to-market stocks over low book-to-market stocks

Key Terms continued

Valuation Terms

- **EV = Enterprise Value**: the measure of a company's total value. It looks at the entire market value rather than just the equity value, so all ownership interests and asset claims from both debt and equity are included. EV can be thought of as the effective cost of buying a company or the theoretical price of a target company (before a takeover premium is considered).
    - Simple EV = Market Capitalization + Market Value of Debt – Cash and Equivalents
    - Extended EV = Common Shares + Preferred Shares + Market Value of Debt + Noncontrolling Interest – Cash and Equivalents
- **TV = Terminal Value**: the estimated value of a business beyond the explicit forecast period. It is a critical part of the financial model, as it typically makes up a large percentage of the total value of a business. There are two approaches to the DCF terminal value formula: perpetual growth and exit multiple.
    - Perpetual Growth: Used by Academics, assumes business will continue to generate Free Cash Flow at a normalized rate forever.
    - Exit Multiple: Used by Industry, assumes business is sold for a multiple of some metric, typically EBITDA, based on currently observed comparable trading multiples.
    - TV = Financial Metric (i.e. EBITDA x Trading Multiple)

- **RV = Relative Valuation**: Models are used to value companies by comparing them to other businesses based on certain metrics such as EV/Revenue, EV/EBITDA, and P/E ratios. The logic is that if similar companies are worth 10x earnings, then the company that's being valued should also be worth 10x its earnings. The two most common types of relative valuation models are **comparable company analysis** and **precedent transactions analysis**.
- **EBITDA = Earnings before Interest, Taxes, Depreciation, and Amortization**:
    - The EBITDA metric is a variation of operating income (EBIT) that excludes certain non-cash expenses. The purpose of these deductions is to remove the factors that business owners have discretion over, such as debt financing, capital structure, methods of depreciation, and taxes (to some extent). It can be used to showcase a firm's financial performance without the impact of its capital structure.
    - EBITDA is not a recognized metric in use by IFRS or US GAAP. In fact, certain investors like Warren Buffet have a particular disdain for this metric, as it does not account for the depreciation of a company's assets.

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Key Terms continued

Valuation Terms Continued

- **NOPAT = Net Operating Profit After Tax**: NOPAT stands for Net Operating Profit After Tax and represents a company's theoretical income from operations if it had no debt (no interest expense). NOPAT is used to make companies more comparable by removing the impact of their capital structure. In this way, it's easier to compare two companies in the same industry (i.e., one with no leverage and the other with significant leverage).

- **Spread**: The difference or gap between two related values, such as buying or selling prices.

- **CAGR = Compound Annual Growth Rate**: The measure of an investment's annual growth rate over time, with the effect of compounding considered. It is often used to measure and compare the past performance of investments or to project their expected future returns.
    - CAGR = (Ending Value/Beginning Value) ^ (1/No. of Periods) − 1.

- **WACC = Weighted Average Cost of Capital**: Used in financial modeling as the discount rate to calculate the net present value of a business. More specifically, WACC is the discount rate used when valuing a business or project using the **unlevered free cash flow** approach. Another way of thinking about WACC is that it is the required rate an investor needs to consider investing in the business.

- **Unlevered versus Levered**:
    - Levered cash flow is the amount of cash a business has after it has met its financial obligations.
    - Unlevered free cash flow is the money the business has before paying its financial obligations.
    - It is possible for a business to have a negative levered cash flow if its expenses exceed its earnings.

- **Bloomberg's Debt Adjustment Factor**: Represents the average yield above government bonds for a given rating class. The lower the rating, the higher the adjustment factor. The debt adjustment factor (AF) is only used when a company does not have a fair market curve (FMC). When a company does not have a credit rating, an assumed rate of 1.38 (the equivalent rate of a BBB+ Standard & Poor's long term currency issuer rating) is used. The exact calculation of the debt adjustment factor is a Bloomberg proprietary calculation.

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