# University of Illinois Urbana-Champaign

## Gies College of Business

**FIN 589: Applied Portfolio Management**

**Eli Lilly (LLY) | Johnson & Johnson (JNJ) | AbbVie (ABBV)**


### Team Members

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# Executive Summary

Our analysis integrates a top-down economic outlook with bottom-up valuation and strategic diagnostics to determine positioning in large-cap pharmaceuticals: Eli Lilly (LLY), AbbVie (ABBV), and Johnson & Johnson (JNJ), for the Applied Portfolio Management fund. We anchor assumptions in a stagflation base case: slowing growth with sticky inflation, supported by complementary bull (reflation) and bear (deflation) scenarios. Healthcare sits at the intersection of defensive-growth and defensive-value styles, making it the preferred sector under a stagflationary regime.

The large-cap pharma space remains structurally attractive: scale-intensive R&D and stringent regulation keep newcomers at bay, while incumbents joust for first-mover advantage. Although payors are flexing greater pricing muscle, the near-term risk of wholesale substitution is low; instead, drugs are most often cannibalized by fresh innovation from the same firms. Against this backdrop, companies with differentiated pipelines thrive, whereas those heading into patent cliffs or legislative crosshairs face margin pressure.

Eli Lilly epitomizes the winning profile. Its dominance in GLP-1/dual-incretin obesity treatments and a broad late-stage portfolio in oncology, neurology, and immunology give it the firepower to tap a $53 billion obesity market, just as new U.S. manufacturing capacity switches on. The flip side is concentration risk: roughly 40 % of revenue rides on the incretin franchise, and legacy diabetes sales are already eroding, but the strategic upside outweighs these weaknesses, with drug-price legislation and biosimilar competition the principal threats. Johnson & Johnson faces litigation overhangs and the revenue split, and AbbVie must replace Humira cash flows while digesting serial acquisitions, leaving both less compelling on a risk-adjusted basis.

Our base-case DCFs place fair value at $1,047 for Lilly, $181 for J&J, and $195 for AbbVie, implying upside of 28 %, 17 %, and 5 % respectively versus closing prices on 21st April, 2025. A one-year, one-million-path Monte Carlo overlay corroborates those figures: Lilly's mean terminal price emerges at $955 with a 5–95 % range of $633–1,367, meaning even the conservative tail clears today's spot; J&J clusters tightly around its DCF base ($171 mean, $133–216 band); AbbVie shows a similar mean ($207) but a fat left tail that puts one-in-four paths below $150. Synthesizing the macro view, cash-flow values, probabilistic price paths, and company-specific SWOTs, we recommend BUY on Eli Lilly, HOLD on Johnson & Johnson, and SELL on AbbVie.

# Background

In managing real client portfolios through the Applied Portfolio Management course, the primary objective is to pick best quality names using a top-down investment approach. Our strategy begins with forecasting the next stage of the business cycle through a custom-built economic model, which enables us to focus on sectors most likely to outperform under the anticipated macroeconomic conditions. By aligning sector exposure with economic expectations, we aim to enhance portfolio resilience while positioning for upside potential.

The business cycle is segmented into four stages: inflationary, deflationary, stagflationary, and reflationary. Each phase favors distinct sectors based on growth and inflation dynamics. Our model output pointed to a stagflationary environment, characterized by low growth and high inflation. In such a regime, defensive sectors such as healthcare tend to outperform, due to their stable cash flows, inelastic demand, and relative insulation from commodity-driven inflation shocks.

Given the macro-outlook, our attention turned to the large-cap U.S. pharmaceutical space, where we selected Eli Lilly (LLY), AbbVie (ABBV), and Johnson & Johnson (JNJ) for deeper analysis. These firms provide differentiated exposures across innovation, diversification, and acquisition-driven growth strategies, making them compelling candidates for portfolio consideration under stagflation.

From a valuation perspective, we used Discounted Cash Flow (DCF) models to assess fair value under bull, base, and bear cases, allowing us to quantify the uncertainty and probability distribution of potential outcomes. Scenario assumptions were informed by both macroeconomic forecasts and company-specific fundamentals. In addition to DCFs, we incorporated qualitative insights from earnings calls, product pipelines, litigation developments, and regulatory trends to refine our investment theses.

Ultimately, by integrating economic forecasts with detailed bottom-up research, we arrived at differentiated recommendations for each stock: a BUY on Eli Lilly due to its robust obesity and neurology pipeline, a HOLD on Johnson & Johnson as it navigates litigation and structural changes, and a SELL on AbbVie considering Humira's patent expiration and heightened acquisition risk.

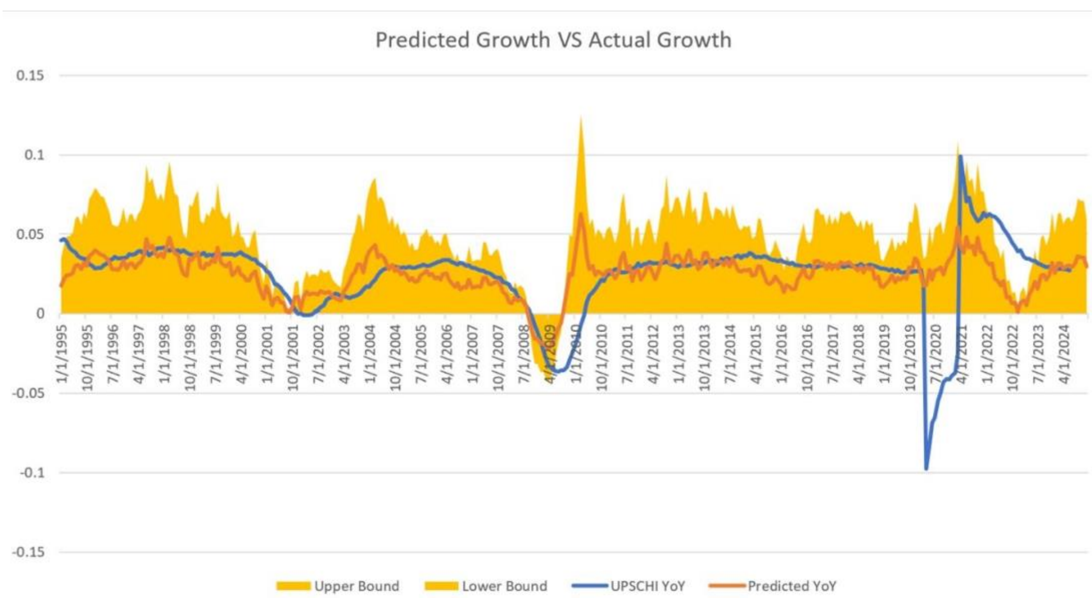
# Economic Model

Our method employs two multiple linear regression models, estimated using Ordinary Least Squares (OLS), to forecast the macroeconomic trajectory of the United States in 2025. The first model focuses on real economic activity, represented by the Coincident Economic Index (COI/UPSCHI), while the second model targets inflation, represented by the Consumer Price Index (CPI). All independent variables are lagged by six months and expressed in year-over-year (YOY) growth terms to reduce seasonality.

## COI Model: Real Activity Forecast

$$
\begin{aligned}
COI_t = {} & \beta_0 + \beta_1(New\ Orders\ of\ Manufactured\ Goods)_{t-6} + \beta_2(S\&P500)_{t-6} \\
& + \beta_3(Consumers'\ Sentiment)_{t-6} + \beta_4(PMI)_{t-6} + \beta_5(New\ Orders\ Index)_{t-6} \\
& + \varepsilon_t, \varepsilon_t \sim \mathrm{N}(0, \sigma^2)
\end{aligned}
$$

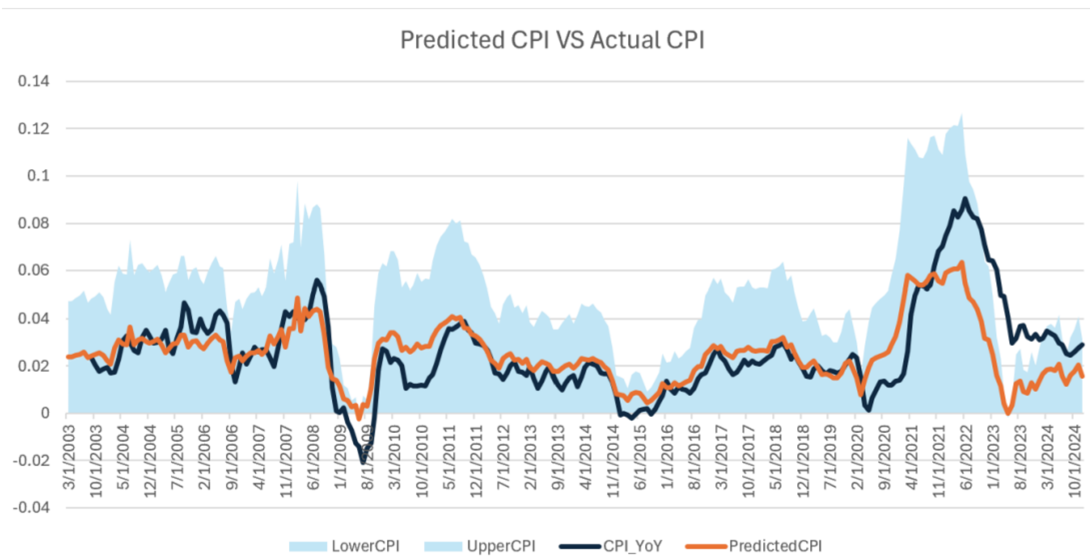
1. **New Orders of Manufactured Goods**: Captures expected future production activity in the industrial sector.
2. **S&P 500**: Reflects investor expectations about the future state of the economy.
3. **UMCSENT**: Measures household confidence and expected consumption behavior.
4. **PMI**: A survey-based indicator of economic health in the manufacturing sector.
5. **New Orders Index**: A forward-looking subcomponent of the PMI that captures demand for future production.
6. **Building Permits**: Serve as leading indicator for future construction activity and economic health.



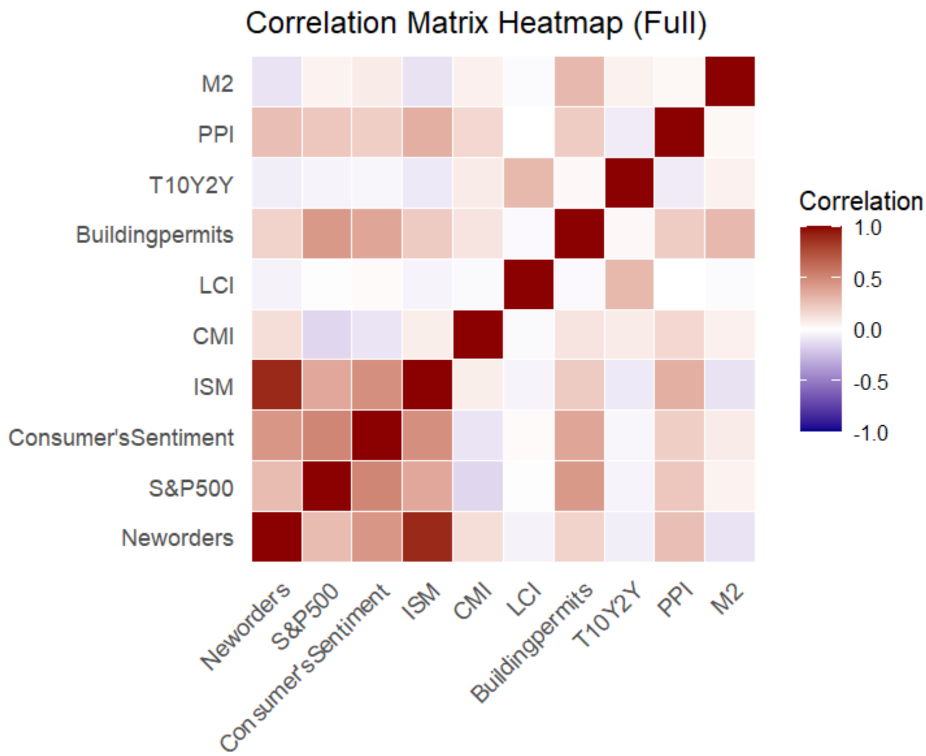
## CPI Model: Inflation Forecast

$$CPI_t = \beta_0 + \beta_1(T10Y2Y)_{t-6} + \beta_2(2.PPI)_{t-6} + \beta_3(\mathrm{M2})_{t-6} + \beta_4(LCI)_{t-6} + \beta_5(CMI)_{t-6} + \varepsilon_t, \varepsilon_t \sim \mathrm{N}(0, \sigma^2)$$

1. **T10Y2Y**: The yield spread between 10-year and 2-year Treasury bonds, representing market expectations about future inflation and growth.
2. **PPI**: Measures wholesale inflation and often leads changes in consumer prices.
3. **M2**: A broad measure of money supply that reflects liquidity and potential inflationary pressure.
4. **LCI**: Loan Conditions Index; indicates changes in credit availability and lending standards.
5. **CMI**: Credit Manager Index; reflects corporate credit health and payment trends.




To assess the suitability of the variables used in both models, a correlation matrix heatmap was constructed. The heatmap illustrates the pairwise correlations among all independent variables. As shown, most variables exhibit moderate to low correlations, with few values exceeding 0.7. This indicates that multicollinearity is weak across the variable set, and each predictor captures a distinct aspect of the economic environment—whether from financial markets, real-sector dynamics, sentiment surveys, or credit conditions. This statistical independence enhances the robustness of the regression results and ensures that each variable contributes meaningful explanatory power to the model.




## Interpretation

The regression analysis conducted through two OLS models—one for real activity (COI) and one for inflation (CPI)—reveals a consistent divergence between the growth and inflation trajectories of the U.S. economy over the coming quarters. The COI model incorporates six-month lagged indicators including the S&P 500 index, consumer sentiment, PMI, new orders of manufactured goods, and building permits. While several of these variables, particularly the S&P 500 and new orders, exhibit statistically significant positive effects, their combined impact points to only modest improvements in real economic activity. The model suggests that although investor confidence and manufacturing intentions remain somewhat upbeat, these are insufficient to generate a strong, broad-based recovery in output. Consumer sentiment and PMI, while directionally supportive, offer limited additional explanatory power given their weaker statistical significance.

The CPI model, in contrast, presents a much clearer and stronger signal. It incorporates six-month lagged producer prices (PPI), money supply (M2), the Treasury yield spread (T10Y2Y), and two credit-related variables—the Loan Conditions Index (LCI) and the Credit Manager Index (CMI). The model identifies PPI and M2 as the dominant drivers of inflation, both of which carry highly significant and positive coefficients. This suggests that cost-push inflation and excess liquidity are contributing to sustained price pressures. Although LCI and CMI capture some degree of credit tightening, their effects are relatively weaker and do not meaningfully offset the upward momentum in CPI. Taken together, the model forecasts inflation to remain sticky at about the 2.5% to 3% range over the next half year, above the Federal Reserve's long-term target of 2%.

Overall, the dual-model output paints a picture of an economy caught in an imbalance: growth is constrained while inflation remains elevated. This classic stagflation profile—weak output alongside persistent price increases—raises fundamental challenges for policy and investment strategy.

## Forecasting

Based on the six-month lag structure of both models, we project that the U.S. economy will experience a stagflationary environment lasting approximately six to nine months, beginning in mid-2025 and extending into early 2026. During this period, GDP growth is expected to stagnate at low positive levels, while inflation is likely to remain sticky due to ongoing supply-side cost pressures and residual effects from previous monetary expansion.

This forecast implies a constrained policy space. Should the Federal Reserve prioritize inflation control through further tightening, it risks exacerbating the already fragile growth trajectory. On the other hand, a pivot toward monetary easing may reinforce inflationary expectations without delivering meaningful improvements in output. In this context, conventional demand-management tools may prove inadequate.

As a result, alternative policy approaches may be required. These could include supply-side interventions aimed at boosting productive capacity, reducing bottlenecks, or enhancing labor participation, as well as more targeted credit relief programs to avoid unnecessary stress in sectors vulnerable to financing constraints. From an investor's perspective, this environment favors defensive asset allocations, particularly into sectors with inelastic demand and pricing power—such as healthcare, utilities, and consumer staples. In our broader analysis, the healthcare sector has been identified as one of the most resilient under stagflation, with firms like Johnson & Johnson and Eli Lilly serving as examples of companies capable of sustaining both earnings and valuation under macro stress.

In sum, the outlook derived from our econometric analysis suggests that the U.S. economy is heading into a transitional phase in which short-term macroeconomic stability will be difficult to achieve. While inflation may moderate gradually, the weakness in growth is likely to persist, making this one of the most complex periods for policy coordination and investment decision-making in recent years.

# Industry Overview

## Industry Analysis: U.S. Healthcare Sector under Stagflation

As the U.S. economy enters a stagflationary phase—characterized by weak growth and persistent inflation—the healthcare sector stands out as one of the most resilient and defensive industries. Healthcare spending in the U.S. consistently accounts for approximately 17–18% of GDP, driven by aging demographics, chronic disease prevalence, and inelastic demand for medical goods and services. Unlike cyclical sectors that suffer in downturns, healthcare consumption tends to remain stable, making it a preferred allocation during periods of economic stress.

The structure of the healthcare industry—comprising pharmaceuticals, biotechnology, medical devices, health services, and insurance—offers diverse revenue streams, many of which are partially insulated from inflationary pressures. Pharmaceutical and biotechnology firms, in particular, benefit from long patent cycles, strong pricing power, and regulatory protections that allow them to maintain margins even as input costs rise. Moreover, healthcare services often rely on reimbursement from public and private insurers, which are typically adjusted over time for inflation.

In stagflation, investors tend to favor industries that combine stable cash flows with moderate pricing power. Healthcare fits this profile well. Additionally, many healthcare companies operate with relatively low exposure to commodity costs or global supply chains, further shielding them from inflation shocks.

Two firms that exemplify the healthcare sector's resilience are Johnson & Johnson (JNJ) and Eli Lilly (LLY). JNJ represents a diversified healthcare business with exposure across pharmaceuticals, medical devices, and consumer health, offering steady dividend income and broad-based stability. LLY, on the other hand, reflects innovation-driven growth through its leadership in obesity and diabetes treatments. Both companies have demonstrated earnings durability and are viewed as attractive holdings during inflationary and low-growth periods.

In sum, the U.S. healthcare industry offers defensive characteristics, long-term structural demand, and relatively strong pricing power, making it well-positioned to weather stagflation. Its unique combination of stability and innovation provides investors with both protection and upside potential in a challenging macroeconomic environment.

# SWOT Analysis

## Eli Lilly’s Strategic Position in the GLP-1 and Anti-Obesity Market

### Strengths

Eli Lilly holds a dominant position in the $53 billion global anti-obesity and type 2 diabetes market, led by its GLP-1 receptor agonists: Zepbound, Mounjaro, and Orforglipron—the latter outperforming Novo Nordisk’s Ozempic across all metrics and is yet to be approved for the market. With GLP-1 therapies accounting for 40% of total revenue, Lilly reported robust financial growth, increasing annual revenue from $34 billion in FY 2023 to $45 billion in FY 2024—a 32% YoY gain. Q4 revenue rose 45%, supported by $3 billion in shareholder returns, including a $2 billion buyback and a 15% dividend hike. The company also benefits from strong North American market penetration (77% of GLP-1 demand) and strategic reinvestments in U.S. manufacturing.

### Weaknesses

While GLP-1 dominance is a major strength, it also introduces concentration risk. The company is heavily reliant on a single therapeutic class, with Trulicity experiencing 25% YoY sales decline due to internal cannibalization by Mounjaro. Both Trulicity and Jardiance have been selected for Medicare price negotiations under the Inflation Reduction Act (IRA), increasing pricing pressure. Furthermore, Trulicity's patent expires in 2027, followed by Jardiance in 2028 and Verzenio in 2031, exposing Lilly to biosimilar competition and revenue erosion.

### Opportunities

Lilly is capitalizing on macro trends, with obesity rates projected to exceed 50% among U.S. adults by 2030. The company is expanding its production capacity with over $50 billion in plant investments, including a $9 billion facility in Indiana, and is diversifying its pipeline beyond diabetes and obesity. Emerging drugs such as Jaypirca, Omvoh, Kisunla, and Ebglyss position Lilly to expand in oncology, neurology, and immunology, creating new long-term growth levers.

### Threats

Lilly faces significant external risks from U.S. and global regulatory pricing pressures, particularly under the IRA. The expiration of key patents increases vulnerability to biosimilar and generic competition, potentially compressing margins. As pricing transparency and cost containment become regulatory priorities, Lilly must navigate an increasingly complex policy environment while defending its competitive edge in high-growth therapeutic markets.

# Valuation

## Discounted Cash Flow

Our method of valuation involves the Discounted Cash Flow Method or a DCF analysis. Our discounted cash flow model employs the use of estimating future cash flows for a company over a period of 10 years. Essentially, the value of a firm is determined by discounting back its future cash flows with an appropriate discount rate. The components of the discount rate for any firm includes the cost of equity and cost of debt. The drivers while building a discounted cash flow model are the assumptions we make in terms of the firms' revenue growth, profit margins, operational efficiency, capital expenditure and other line items of the financial statements. Since the assumptions act as a major component of deriving the intrinsic value of the firm, we undertake a scenario analysis to ensure our assumptions fit and match the various scenarios of our projected economic trajectory. As a result, we have modelled a total of 3 discounted cash flow models being informed by the assumptions in our base, bull and bear cases. With the added scenarios analysis, we are able to derive a wide range of possibilities that correlate to each stage of the economic cycle and thus it aids us by providing deeper insights into the future performance of a firm. To further refine our projections, we looked at the patent expiration of various drugs for each company and its contribution to their percentage of revenue and gave the companies a headwind in revenue growth based on quantitative and qualitative analysis.

## Eli Lilly and Company Base Case

**Eli Lilly**
Discounted Cash Flow Analysis
For the Years Ended December 31
Millions of Dollars

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | Terminal Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue | 34,124.2 | 45,042.7 | 59456 | 77293 | 98162 | 121721 | 148500 | 178200 | 213840 | 252331 | 297751 | 351346 | |
| Cost of Goods Sold | 6,576.0 | 7,865.1 | 9,958.9 | 12,753.4 | 16,196.8 | 19,779.7 | 24,131.3 | 28,957.5 | 34,749.0 | 41,003.9 | 48,384.6 | 57,093.8 | |
| Gross Margin | 27,548.2 | 37,177.6 | 49,497.4 | 64,539.9 | 81,965.7 | 101,941.7 | 124,368.9 | 149,242.7 | 179,091.2 | 211,327.6 | 249,366.6 | 294,252.6 | |
| Operating Expenses: | | | | | | | | | | | | | |
| SG&A | 7403.1 | 8,593.8 | 12,337.2 | 16,038.4 | 20,368.7 | 24,952.9 | 30,442.5 | 36,085.5 | 43,302.6 | 51,097.1 | 60,294.6 | 71,147.6 | |
| R&D | 9313.4 | 10,990.6 | 15,755.9 | 20,482.7 | 26,013.1 | 31,951.9 | 38,981.3 | 46,777.6 | 56,133.1 | 66,237.0 | 78,159.7 | 92,228.4 | |
| Lease | 171.2 | 209.6 | 221.2 | 189.1 | 172.2 | 130.3 | 108.6 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | |
| Total Operating Expenses | 16,887.7 | 19,794.0 | 28,314.3 | 36,710.2 | 46,554.0 | 57,035.1 | 69,532.4 | 82,928.2 | 99,500.8 | 117,399.2 | 138,519.4 | 163,441.2 | |
| Operating Income | 10,660.5 | 17,383.6 | 21,183.1 | 27,829.7 | 35,411.7 | 44,906.6 | 54,836.5 | 66,314.5 | 79,590.4 | 93,928.4 | 110,847.2 | 130,811.4 | |
| Other Income/(Expense) | - | - | - | - | - | - | - | - | - | - | - | - | |
| Pretax Income | 10,660.5 | 17,383.6 | 21,183.1 | 27,829.7 | 35,411.7 | 44,906.6 | 54,836.5 | 66,314.5 | 79,590.4 | 93,928.4 | 110,847.2 | 130,811.4 | |
| Income Taxes | 1,471.1 | 2,868.3 | 3,389.3 | 4,452.8 | 5,665.9 | 7,185.1 | 8,773.8 | 10,610.3 | 12,734.5 | 15,028.5 | 17,735.6 | 20,929.8 | |
| Net Income | 9,189.4 | 14,515.3 | 17,793.8 | 23,377.0 | 29,745.8 | 37,721.6 | 46,062.6 | 55,704.2 | 66,855.9 | 78,899.8 | 93,111.6 | 109,881.6 | |
| + Depreciation & Amortization | 1,527.3 | 1,766.6 | 2,101.6 | 2,409.3 | 2,825.9 | 3,338.7 | 3,969.9 | 4,767.8 | 5,698.8 | 6,806.9 | 8,124.0 | 9,687.5 | |
| - Capital Expenditures | (3,450.0) | (5,060.0) | (7,134.8) | (9,275.2) | (11,779.5) | (14,302.3) | (17,448.8) | (20,493.0) | (24,591.6) | (29,018.1) | (34,241.4) | (40,404.8) | |
| - Working Capital Additions | (2,228.9) | (4,077.5) | (2,738.6) | (3,389.0) | (3,965.1) | (4,476.2) | (5,088.0) | (5,643.0) | (6,771.6) | (7,313.3) | (8,629.7) | (10,183.1) | |
| Free Cash Flow | 5,037.8 | 7,144.4 | 7,516.5 | 13,122.1 | 16,827.1 | 22,281.8 | 27,495.8 | 34,335.9 | 41,191.5 | 49,375.3 | 58,364.5 | 68,981.2 | 1,517,169.9 |
| Present Value Factor | | | 0.9906 | 0.9449 | 0.8761 | 0.8123 | 0.7532 | 0.6984 | 0.6476 | 0.6004 | 0.5567 | 0.5162 | 0.4971 |
| PV Free Cash Flow | | | 7,445.8 | 12,399.0 | 14,742.5 | 18,100.6 | 20,710.4 | 23,980.0 | 26,674.0 | 29,646.2 | 32,492.7 | 35,608.0 | 754,119.9 |
| Value of Firm | | | 975,919.1 | | | | | | | | | | |
| Less: Debt Outstanding | | | (34,910.6) | | | | | | | | | | |
| Plus: Cash | | | 3,433.5 | | | | | | | | | | |
| Equity Value | | | 944,442.0 | | | | | | | | | | |
| Shares Outstanding | | | 902.5 | | | | | | | | | | |
| Value Per Share | | | $ 1,046.47 | | | | | | | | | | |
| Share Price (2/12/25) | | | $ 820.00 | | | | | | | | | | |

| | Projected | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Option Selection** | | | | | | | | | | |
| **Operating Scenario** | 1 | | | | | | | | | |
| | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2031** | **2032** | **2033** | **2034** |
| **Total Revenue Growth** | **32.00%** | **30.00%** | **27.00%** | **24.00%** | **22.00%** | **20.00%** | **20.00%** | **18.00%** | **18.00%** | **18.00%** |
| Base | 32.00% | 30.00% | 27.00% | 24.00% | 22.00% | 20.00% | 20.00% | 18.00% | 18.00% | 18.00% |
| Bull | 32.50% | 30.00% | 28.00% | 26.00% | 25.00% | 23.00% | 22.00% | 20.00% | 18.00% | 18.00% |
| Bear | 28.00% | 26.00% | 23.00% | 20.00% | 17.00% | 16.00% | 14.00% | 14.00% | 12.00% | 12.00% |
| **Gross Margin** | **83.25%** | **83.50%** | **83.50%** | **83.75%** | **83.75%** | **83.75%** | **83.75%** | **83.75%** | **83.75%** | **83.75%** |
| **COGS** | **16.75%** | **16.50%** | **16.50%** | **16.25%** | **16.25%** | **16.25%** | **16.25%** | **16.25%** | **16.25%** | **16.25%** |
| Base | 16.75% | 16.50% | 16.50% | 16.25% | 16.25% | 16.25% | 16.25% | 16.25% | 16.25% | 16.25% |
| Bull | 16.25% | 16.25% | 16.00% | 16.00% | 16.00% | 16.00% | 16.00% | 16.00% | 16.00% | 16.00% |
| Bear | 18.50% | 18.00% | 18.00% | 17.75% | 17.75% | 17.50% | 17.50% | 17.50% | 17.50% | 17.50% |
| **Operating Expense** | | | | | | | | | | |
| **SG&A** | **20.75%** | **20.75%** | **20.75%** | **20.50%** | **20.50%** | **20.25%** | **20.25%** | **20.25%** | **20.25%** | **20.25%** |
| Base | 20.75% | 20.75% | 20.75% | 20.50% | 20.50% | 20.25% | 20.25% | 20.25% | 20.25% | 20.25% |
| Bull | 20.50% | 20.50% | 20.25% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% |
| Bear | 21.75% | 21.50% | 21.25% | 21.00% | 20.75% | 20.75% | 20.75% | 20.75% | 20.75% | 20.75% |
| **R&D** | **26.50%** | **26.50%** | **26.50%** | **26.25%** | **26.25%** | **26.25%** | **26.25%** | **26.25%** | **26.25%** | **26.25%** |
| Base | 26.50% | 26.50% | 26.50% | 26.25% | 26.25% | 26.25% | 26.25% | 26.25% | 26.25% | 26.25% |
| Bull | 26.25% | 26.25% | 26.25% | 26.00% | 26.00% | 26.00% | 26.00% | 26.00% | 26.00% | 26.00% |
| Bear | 27.25% | 27.25% | 26.75% | 26.75% | 26.75% | 26.50% | 26.50% | 26.50% | 26.50% | 26.50% |
| **Capex** | **12.00%** | **12.00%** | **12.00%** | **11.75%** | **11.75%** | **11.50%** | **11.50%** | **11.50%** | **11.50%** | **11.50%** |
| Base | 12.00% | 12.00% | 12.00% | 11.75% | 11.75% | 11.50% | 11.50% | 11.50% | 11.50% | 11.50% |
| Bull | 11.75% | 11.75% | 11.75% | 11.50% | 11.50% | 11.25% | 11.25% | 11.25% | 11.25% | 11.25% |
| Bear | 12.50% | 12.25% | 12.25% | 12.00% | 12.00% | 11.75% | 11.75% | 11.75% | 11.75% | 11.75% |

Our DCF model, for Eli Lilly (LLY.), starts by normalizing its income statement for FY23' and FY24' to get a better picture of LLY expenses and margins as a percentage of revenue which helps us in allocation of those numbers in our models based on our assumptions, which we gathered through management commentary, market view and our intrinsic research about the company's product and form our three scenarios' for base (1), bull (2), and bear (3) for the valuation of the company.

Eli Lilly is a high growth company in healthcare and its revenue is expected to grow at a very high rate for a company in the healthcare sector due to their super popular drugs for diabetes type-2 and obesity patients and therefore a high growth rate was given to the company based on market consensus and management overview.

For operating margins appropriate changes were made as the company expects to increase their expense in $ terms of marketing of their new drugs Zepbound, and Mounjaro and due to maintain their high growth and competitive advantage the company also expects to have an increase in R&D to facilitate further development of exclusive drugs. Over the course of 10 years revenue growth for our base case goes from 32% to 18%, given the high base company faces, operating expenses and capital expenditure were changed appropriately given the company's high growth expectations.

With all the assumptions we arrived at a base case value of $1,046 an upside of 28% for Eli Lilly, we expect to have a Base case of growth in LLY, in stagflationary environment, where even with a expected stick inflation and below average growth, people will have stable purchasing power to buy their drug, as not all their blockbuster drugs right now are covered through insurance, achieving the expected growth, while somewhat negating the effects of tariffs thorough their new production facilities starting in H1 of 2025. The major driver of our model is company's growing revenue and with that

For our Bull case of growth in LLY, we expect through our model its value to be $1,191 an upside of 45%, which company can achieve by achieving the top range of its guidance and the approval of their new drug Orforglipron, which will directly rival Ozempic of Nova Nordisk, and its phase three trial having shown better efficacy that its rivals, its approval can help company grow at better rate than base case for few years and thus have a higher return for its investors

For our bear case, we subdued its growth for 2025 and beyond compared to base concerning regulatory changes, launch of better drug by competitor and economic downturn making revenue from drugs not covered through insurance taking a hit, raising its COGS given the tariffs concern and increase in operating expense as % of revenue as many of those expenses are already in motion and takes time to change and therefore under such a case see its value falling to $687, a downside of 16%

Given all the analysis we recommend a buy call on Eli Lilly considering the growing market of obesity and diabetes medication around the world and the stronghold of Eli Lilly through its early mover and strongest mover advantage in those sectors

# AbbVie Inc. Base Case

Abbvie Inc.
Discounted Cash Flow Analysis
For the Years Ended December 31
Millions of Dollars

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | Terminal Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue | 54,318.0 | 56,334.0 | 61,122.39 | 66,317.79 | 71,954.81 | 78,070.96 | 84,316.64 | 91,061.97 | 97,891.62 | 1,05,233.49 | 1,11,021.33 | 1,17,127.51 | |
| Cost of Goods Sold | 20,415.0 | 16,904.0 | 18,336.7 | 19,729.5 | 21,226.7 | 22,835.8 | 24,451.8 | 26,408.0 | 28,388.6 | 30,517.7 | 32,196.2 | 33,967.0 | |
| Gross Margin | 33,903.0 | 39,430.0 | 42,785.7 | 46,588.2 | 50,728.1 | 55,235.2 | 59,864.8 | 64,654.0 | 69,503.1 | 74,715.8 | 78,825.1 | 83,160.5 | |
| Operating Expenses: | | | | | | | | | | | | | |
| SG&A | 12,872.0 | 14,752.0 | 15,280.6 | 16,247.9 | 17,269.2 | 18,346.7 | 19,392.8 | 20,944.3 | 22,515.1 | 24,203.7 | 25,534.9 | 26,939.3 | |
| R&D | 7,654.0 | 12,791.0 | 13,752.5 | 14,589.9 | 15,830.1 | 16,785.3 | 17,706.5 | 19,123.0 | 20,557.2 | 22,099.0 | 23,314.5 | 24,596.8 | |
| Lease | 214.0 | 204.0 | 204.0 | 182.0 | 145.0 | 118.0 | 102.0 | 62.0 | 62.0 | 62.0 | 62.0 | 62.0 | |
| Total Operating Expenses | 20,740.0 | 27,747.0 | 29,237.1 | 31,019.8 | 33,244.2 | 35,249.9 | 37,201.3 | 40,129.3 | 43,134.3 | 46,364.7 | 48,911.4 | 51,598.1 | |
| Operating Income | 13,163.0 | 11,683.0 | 13,548.5 | 15,568.5 | 17,483.9 | 19,985.3 | 22,663.5 | 24,524.7 | 26,368.7 | 28,351.0 | 29,913.8 | 31,562.4 | |
| Other Income/(Expense) | - | - | - | - | - | - | - | - | - | - | - | - | |
| Pretax Income | 13,163.0 | 11,683.0 | 13,548.5 | 15,568.5 | 17,483.9 | 19,985.3 | 22,663.5 | 24,524.7 | 26,368.7 | 28,351.0 | 29,913.8 | 31,562.4 | |
| Income Taxes | 2,895.9 | (1,787.5) | 2,032.3 | 2,335.3 | 2,622.6 | 2,997.8 | 3,399.5 | 3,678.7 | 3,955.3 | 4,252.7 | 4,487.1 | 4,734.4 | |
| Net Income | 10,267.1 | 13,470.5 | 11,516.3 | 13,233.2 | 14,861.3 | 16,987.5 | 19,264.0 | 20,846.0 | 22,413.4 | 24,098.4 | 25,426.7 | 26,828.1 | |
| + Depreciation & Amortization | 8,484.0 | 8,182.0 | 7,772.9 | 7,204.3 | 6,641.2 | 6,884.2 | 6,334.0 | 7,091.3 | 7,132.2 | 7,207.1 | 7,292.3 | 7,388.9 | |
| - Capital Expenditures | (777.0) | (974.0) | (1,081.1) | (1,200.1) | (1,332.1) | (1,478.6) | (1,641.2) | (1,821.8) | (2,022.2) | (2,244.6) | (2,491.5) | (2,765.6) | |
| - Working Capital Additions | (3,764.0) | (8,328.0) | (1,120.5) | (1,215.7) | (1,319.1) | (1,431.2) | (1,461.5) | (1,578.4) | (1,598.1) | (1,718.0) | (1,354.4) | (1,428.8) | |
| Free Cash Flow | 14,210.1 | 12,350.5 | 17,087.5 | 18,021.7 | 18,851.4 | 20,961.9 | 22,495.2 | 24,537.1 | 25,925.3 | 27,342.8 | 28,873.1 | 30,022.5 | 4,32,047.3 |
| Present Value Factor | | | 0.9919 | 0.9526 | 0.8928 | 0.8368 | 0.7843 | 0.7351 | 0.6890 | 0.6458 | 0.6053 | 0.5673 | 0.5493 |
| PV Free Cash Flow | | | 12,712.3 | 17,167.1 | 16,831.1 | 17,541.5 | 17,643.9 | 18,038.3 | 17,863.4 | 17,658.4 | 17,477.1 | 17,033.0 | 2,37,306.3 |
| Value of Firm | | | 4,07,272.5 | | | | | | | | | | |
| Less: Debt Outstanding | | | (68,163.4) | | | | | | | | | | |
| Plus: Cash | | | 5,555.0 | | | | | | | | | | |
| Equity Value | | | 3,44,664.1 | | | | | | | | | | |
| Shares Outstanding | | | 1,769.0 | | | | | | | | | | |
| **Value Per Share** | | | **$ 194.84** | | | | | | | | | | |
| Share Price (4/25/25) | | | $ 186.06 | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Option Selection** | | | | | | | | | | | |
| **Operating Scenario** | 1 | | | | | | | | | | |
| | | | | | | **Projected** | | | | | |
| | | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2031** | **2032** | **2033** | **2034** |
| **Total Revenue Growth** | | 8.50% | 8.50% | 8.50% | 8.50% | 8.00% | 8.00% | 7.50% | 7.50% | 5.50% | 5.50% |
| Base | | 8.50% | 8.50% | 8.50% | 8.50% | 8.00% | 8.00% | 7.50% | 7.50% | 5.50% | 5.50% |
| Bull | | 9.50% | 9.50% | 9.50% | 9.00% | 8.75% | 8.50% | 8.00% | 8.00% | 6.50% | 6.50% |
| Bear | | 7.00% | 7.00% | 7.00% | 7.00% | 7.00% | 6.00% | 5.00% | 5.00% | 4.00% | 4.00% |
| **Gross Margin** | | 70.00% | 70.25% | 70.50% | 70.75% | 71.00% | 71.00% | 71.00% | 71.00% | 71.00% | 71.00% |
| **COGS** | | 30.00% | 29.75% | 29.50% | 29.25% | 29.00% | 29.00% | 29.00% | 29.00% | 29.00% | 29.00% |
| Base | | 30.00% | 29.75% | 29.50% | 29.25% | 29.00% | 29.00% | 29.00% | 29.00% | 29.00% | 29.00% |
| Bull | | 29.00% | 28.50% | 28.50% | 28.25% | 28.25% | 28.00% | 28.00% | 28.00% | 28.00% | 28.00% |
| Bear | | 31.00% | 30.75% | 30.50% | 30.50% | 30.25% | 30.00% | 29.50% | 29.50% | 29.50% | 29.50% |
| **Operating Expense** | | | | | | | | | | | |
| **SG&A** | | 25.00% | 24.50% | 24.00% | 23.50% | 23.00% | 23.00% | 23.00% | 23.00% | 23.00% | 23.00% |
| Base | | 25.00% | 24.50% | 24.00% | 23.50% | 23.00% | 23.00% | 23.00% | 23.00% | 23.00% | 23.00% |
| Bull | | 24.50% | 24.00% | 23.50% | 23.00% | 22.50% | 22.50% | 22.50% | 22.50% | 22.50% | 22.50% |
| Bear | | 26.00% | 25.50% | 25.50% | 25.00% | 24.75% | 24.50% | 24.50% | 24.50% | 24.50% | 24.50% |
| **R&D** | | 22.50% | 22.00% | 22.00% | 21.50% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% |
| Base | | 22.50% | 22.00% | 22.00% | 21.50% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% |
| Bull | | 22.00% | 21.75% | 21.50% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% |
| Bear | | 23.50% | 23.00% | 22.50% | 22.25% | 22.00% | 21.50% | 21.50% | 21.50% | 21.50% | 21.50% |
| **Capex** | | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% |
| Base | | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% |
| Bull | | 10.75% | 10.75% | 10.75% | 10.75% | 10.75% | 10.75% | 10.75% | 10.75% | 10.75% | 10.75% |
| Bear | | 12.00% | 11.50% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% | 11.00% |
| **Other Income** | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Base | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bull | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Bear | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

Our DCF model starts off with normalizing the income statement line items and representing them as a percentage of revenue. These figures act as our guide for allocating the appropriate assumptions in our base, bull and bear cases. Once we have a starting point for our assumptions, we focus on the scenario dictated by our base case. Our base case scenario predicts a stagflationary economy in the following few quarters. It is very important that we follow this prediction while making our assumptions. As mentioned earlier, our DCF models are based on assumptions of revenue growth, profit margins, operating efficiency and other line items. Our revenue growth projections are on a moderately conservative side, which is guided by the firm's presentations and other intrinsic factors that are mentioned ahead. Over the course of 10 years in our DCF model, under the base case, revenue growth projections fall by 300 basis points. This reflects management's guidance, analyst recommendations and our team analysis. The profit margins of the firm are not affected greatly over the course of our DCF duration. Operating expenses like SG&A and R&D decrease slightly over the 10 years indicating a slight betterment of the firm's operational efficiency. With the assumptions in place, we were able to derive at an intrinsic value of $194.84 representing an upside of 4.7%. The major drivers of our assumption numbers are in fact the growing intrinsic risk that the firm is facing.

AbbVie is currently facing legal scrutiny over a recent acquisition, where key investors in the acquired company held a large stake at lower prices but failed to disclose AbbVie's acquisition interest to other shareholders. This potentially deprived minority investors of a fair valuation and has triggered lawsuits around disclosure and fiduciary responsibility. This matters because AbbVie's future growth depends heavily on executing clean, strategic acquisitions. Legal complications like these could damage trust, attract regulatory scrutiny, and create headwinds for future deals — undermining the very strategy they rely on for long-term growth. Given this uncertainty and the limited upside in our valuation base case, we believe it's the right time to exit the position.

Beyond these immediate legal risks, AbbVie also faces broader challenges associated with integrating acquisitions seamlessly. Recent acquisitions have resulted in substantial goodwill impairments and restructuring costs, eroding anticipated synergies. For example, previous deals have encountered unexpected regulatory hurdles, leading to costly delays and undermining forecasted profitability. Additionally, intensified antitrust scrutiny across major pharmaceutical markets means AbbVie's future deals may be subject to prolonged review periods, increased concessions, and greater risks of outright blockage. Such conditions not only escalate transaction costs but also compromise strategic timelines critical to competitive positioning. These cumulative acquisition-related pressures amplify the existing uncertainty and further justify our cautious stance on AbbVie's ability to sustainably leverage acquisitions as a reliable growth driver.

# Johnson & Johnson Services Inc. Base Case

Johnson & Johnson Services Inc.,
Discounted Cash Flow Analysis
For the Years Ended
Millions of Dollars

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | Terminal Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue | 85,159.0 | 88,821.0 | 92374 | 95950 | 99665 | 103524 | 107148 | 108498 | 111609 | 114461 | 117392 | 120404 | |
| Total Medicine Theraputic | 54759 | 56964 | 59243 | 61494 | 63831 | 66256 | 68575 | 68575 | 70289 | 71695 | 73129 | 74592 | |
| Total MedTech Sales | 30400 | 31857 | 33131 | 34457 | 35835 | 37268 | 38573 | 39923 | 41320 | 42766 | 44263 | 45812 | |
| Cost of Goods Sold | 26,553.0 | 27,471.0 | 28,358.8 | 29,456.7 | 30,597.3 | 31,782.0 | 32,787.2 | 33,200.3 | 34,040.8 | 34,910.7 | 35,804.6 | 36,723.2 | |
| Gross Margin | 58,606.0 | 61,350.0 | 64,015.1 | 66,493.6 | 69,068.1 | 71,742.3 | 74,360.5 | 75,297.4 | 77,568.5 | 79,550.6 | 81,587.5 | 83,680.7 | |
| Operating Expenses: | | | | | | | | | | | | | |
| SG&A | 21,512.0 | 22,869.0 | 23,555.3 | 24,467.3 | 25,414.7 | 25,881.1 | 26,786.9 | 26,581.9 | 27,344.3 | 27,470.7 | 28,174.1 | 28,896.9 | |
| R&D | 15,085.0 | 17,232.0 | 18,474.8 | 19,190.1 | 19,933.1 | 20,704.9 | 21,429.5 | 21,699.5 | 22,321.9 | 20,603.0 | 21,130.6 | 21,672.7 | |
| Lease | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | 200.0 | |
| Total Operating Expenses | 36,797.0 | 40,301.0 | 42,230.1 | 43,857.4 | 45,547.7 | 46,785.9 | 48,416.4 | 48,481.5 | 49,866.2 | 48,273.8 | 49,504.7 | 50,769.6 | |
| Operating Income | 21,809.0 | 21,049.0 | 21,785.0 | 22,636.2 | 23,520.3 | 24,956.4 | 25,944.0 | 26,815.9 | 27,702.3 | 31,276.9 | 32,082.8 | 32,911.1 | |
| Other Income/(Expense) | - | - | - | - | - | - | - | - | - | - | - | - | |
| Pretax Income | 21,809.0 | 21,049.0 | 21,785.0 | 22,636.2 | 23,520.3 | 24,956.4 | 25,944.0 | 26,815.9 | 27,702.3 | 31,276.9 | 32,082.8 | 32,911.1 | |
| Income Taxes | 3,009.6 | 3,304.7 | 3,594.5 | 3,735.0 | 3,880.9 | 4,117.8 | 4,280.8 | 4,424.6 | 4,570.9 | 5,160.7 | 5,293.7 | 5,430.3 | |
| Net Income | 18,799.4 | 17,744.3 | 18,190.5 | 18,901.2 | 19,639.5 | 20,838.6 | 21,663.3 | 22,391.3 | 23,131.5 | 26,116.2 | 26,789.1 | 27,480.7 | |
| + Depreciation & Amortization | 7,286.0 | 7,139.0 | 5,723.0 | 5,175.4 | 4,635.1 | 4,102.3 | 4,176.6 | 4,253.4 | 4,336.3 | 4,424.8 | 4,519.0 | 4,619.0 | |
| - Capital Expenditures | (4,543.0) | (4,424.0) | (3,233.1) | (3,358.3) | (3,488.3) | (3,623.3) | (3,750.2) | (3,797.4) | (3,906.3) | (4,006.1) | (4,108.7) | (4,214.1) | |
| - Working Capital Additions | (6,000.0) | (3,300.0) | (532.9) | (536.5) | (557.3) | (578.8) | (543.5) | (202.5) | (466.8) | (427.8) | (439.6) | (451.8) | |
| Free Cash Flow | 15,542.4 | 17,159.3 | 15,110.6 | 20,181.9 | 20,229.1 | 20,738.7 | 21,546.2 | 22,644.8 | 23,094.7 | 26,107.0 | 26,759.8 | 27,433.8 | 487,621.7 |
| Present Value Factor | | | 0.9925 | 0.9558 | 0.8999 | 0.8472 | 0.7977 | 0.7510 | 0.7071 | 0.6657 | 0.6267 | 0.5901 | 0.5725 |
| PV Free Cash Flow | | | 14,997.1 | 19,289.7 | 18,203.6 | 17,570.4 | 17,186.4 | 17,006.0 | 16,329.2 | 17,379.1 | 16,771.4 | 16,187.9 | 279,187.5 |
| Value of Firm | | | 450,108.2 | | | | | | | | | | |
| Less: Debt Outstanding | | | (37,834.0) | | | | | | | | | | |
| Plus: Cash | | | 24,522.0 | | | | | | | | | | |
| Equity Value | | | 436,796.2 | | | | | | | | | | |
| Shares Outstanding | | | 2,409.8 | | | | | | | | | | |
| Value Per Share | | | $ 181.26 | | | | | | | | | | |
| Share Price (2/12/25) | | | $ 155.00 | | | | | | | | | | |

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Option Selection** | | | | | | | | | | |
| **Operating Scenario** 1 | | | | | Projected | | | | | |
| **Total Revenue Growth** | 4.00% | 3.87% | 3.87% | 3.87% | 3.50% | 1.26% | 2.87% | 2.56% | 2.56% | 2.57% |
| **Total Medicine Theraputic** | 4.00% | 3.80% | 3.80% | 3.80% | 3.50% | 0.00% | 2.50% | 2.00% | 2.00% | 2.00% |
| Base | 4.00% | 3.800% | 3.800% | 3.800% | 3.500% | 0.000% | 2.500% | 2.000% | 2.000% | 2.000% |
| Bull | 4.30% | 4.30% | 4.30% | 4.30% | 4.30% | 3.00% | 3.50% | 3.50% | 3.50% | 3.50% |
| Bear | 3.30% | 2.00% | 2.50% | 2.50% | 2.50% | -1.00% | 2.50% | 1.50% | 1.50% | 1.50% |
| **Total MedTech Sales** | 4.00% | 4.00% | 4.00% | 4.00% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% |
| Base | 4.00% | 4.00% | 4.00% | 4.00% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% |
| Bull | 4.50% | 4.50% | 4.50% | 4.50% | 4.30% | 4.30% | 4.30% | 4.30% | 4.30% | 4.30% |
| Bear | 3.00% | 3.50% | 3.50% | 3.50% | 3.50% | 3.00% | 3.00% | 3.00% | 3.00% | 3.00% |
| **Gross Margin** | 69.30% | 69.30% | 69.30% | 69.30% | 69.40% | 69.40% | 69.50% | 69.50% | 69.50% | 69.50% |
| **COGS** | 30.70% | 30.70% | 30.70% | 30.70% | 30.60% | 30.60% | 30.50% | 30.50% | 30.50% | 30.50% |
| Base | 30.70% | 30.70% | 30.70% | 30.70% | 30.60% | 30.60% | 30.50% | 30.50% | 30.50% | 30.50% |
| Bull | 29.50% | 29.00% | 29.00% | 28.75% | 28.50% | 28.25% | 28.25% | 28.25% | 28.25% | 28.25% |
| Bear | 31.50% | 31.75% | 32.00% | 32.00% | 32.00% | 32.00% | 32.00% | 32.00% | 32.00% | 32.00% |
| **Operating Expense** | | | | | | | | | | |
| **SG&A** | 25.50% | 25.50% | 25.50% | 25.00% | 25.00% | 24.50% | 24.50% | 24.00% | 24.00% | 24.00% |
| Base | 25.50% | 25.50% | 25.50% | 25.00% | 25.00% | 24.50% | 24.50% | 24.00% | 24.00% | 24.00% |
| Bull | 24.75% | 24.50% | 24.50% | 24.00% | 24.00% | 24.00% | 24.00% | 23.75% | 23.75% | 23.75% |
| Bear | 26.25% | 26.50% | 26.75% | 26.75% | 26.75% | 26.75% | 26.75% | 26.75% | 26.75% | 26.75% |
| **R&D** | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 18.00% | 18.00% | 18.00% |
| Base | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 20.00% | 18.00% | 18.00% | 18.00% |
| Bull | 18.00% | 18.00% | 18.00% | 18.00% | 18.00% | 18.00% | 18.00% | 18.00% | 18.00% | 18.00% |
| Bear | 21.00% | 21.25% | 21.50% | 21.50% | 21.50% | 21.50% | 21.50% | 21.50% | 21.50% | 21.50% |
| **Capex** | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% |
| Base | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% | 3.50% |
| Bull | 2.75% | 2.75% | 2.75% | 2.75% | 2.75% | 2.75% | 2.75% | 2.75% | 2.75% | 2.75% |
| Bear | 4.25% | 4.25% | 4.25% | 4.25% | 4.25% | 4.25% | 4.25% | 4.25% | 4.25% | 4.25% |

Johnson & Johnson (JNJ) is a household and a legacy name in the healthcare sector, making it a defensive-value name in our portfolio. For Q12025, JNJ increased its dividend continuously for $63^{rd}$ year running, showcasing its stable cash flow.

For our DCF model we modeled its growth via its two major sectors: Medicine Therapeutic, Medtech to make our three cases of base (1), bull (2), and bear (3).

Based on management commentary, market consensus, and our research we gave a conservative growth to the company's revenue, considering the company already being in its maturity phase, while improving its operation efficiency by small percentage points.

With all the assumptions we arrived at a Base case value of $181.26 an upside of 17% for JNJ, which we expect in the stagflationary scenario, considering its stable cash flows and dividend policy.

For our Bull case we estimate a price of $203.7 an upside of 31%, which we expect to come under improved efficiency, positive result for the class-action lawsuit company is facing and an upturn in the economy.

For the Bear case we estimated a price of $134.4, a downside of 13.5%, which we expect to come under diseconomies of scale, negative result for the class action lawsuit company is facing and an extreme downturn in the economy, where irrespective of the sector, equity faces downward movements.

Based on our qualitative and quantitative analysis, we recommend a hold on our holding of JNJ for our portfolio given its stable cash flow, dividend growth rate given the uncertain economic scenarios we are facing.

About the lawsuit: The company faces a $10+ billion lawsuit under which its in-famous baby powder faces allegations that its use on babies caused uterus and ovarian cancer later in life. Though it's a big amount of lawsuits which the company is facing, we still view the equity favorably given our research on the aspects of such lawsuits and how difficult it is to prove such a claim.

# Findings

Ell Lilly is in a very strong defensive growth company with its blockbuster drugs Zepbound, Mojurno driving the growth in diabetes and obesity healthcare market, which is growing exponentially around the world, and Eli Lilly is in a sweet spot to gain advantage from that.

Its heavy capex policy post-covid, saw even with an increasing revenue, net earnings, a fall in free cash flow, which is expected to improve from FY2025 also, as company starts the production in its new facilities in USA, on which we saw heavy capex over the past few years.

Eli Lilly has transformed itself into the undisputed heavyweight of the GLP-1 era. 2024 revenue is tracking about $45 billion, more than 32 % higher than 2023, as prescriptions of tirzepatide-based Mounjaro (diabetes) and its obesity twin Zepbound exploded. In Q1 2025 the firm disclosed it now controls roughly 53 % of the global GLP-1 market, leap-frogging Novo Nordisk for the first time. That market itself is worth ≈ $53 billion in 2024 and is forecast to grow at 17-18 % a year, driven by the grim projection that one in two U.S. adults will be obese by 2030. Lilly's vertically-integrated model—from discovery through large-scale peptide manufacturing—lets it capture outsized margins while meeting break-neck demand.

The competitive dynamics that once governed commodity egg producers like Cal-Maine look very different in big-cap pharma, yet Porter's forces still illuminate why Lilly's moat is widening. Multi-billion-dollar R&D requirements and ten-year development timelines deter newcomers, while Lilly's decision to pour $9 billion into a new Indiana API campus (and more than $50 billion into U.S. manufacturing since 2020) further raises the bar on scale and cost efficiency. Buyer power is rising—Medicare's Inflation Reduction Act price negotiations will start hitting diabetes drugs such as Trulicity and Jardiance in 2027—but GLP-1s' ability to avert costlier bariatric surgery gives Lilly pricing room even after rebates. Rivalry inside the incretin niche is fierce, yet Lilly's pipeline is stacked: an once-daily oral GLP-1 (orforglipron, PDUFA Q4-25) and a best-in-class triple agonist (retatrutide, Phase III data Q3-25) aim to refresh the franchise well before legacy patent cliffs.

Our intrinsic-value work—anchored by a ten-year DCF and cross-checked against peer multiples—puts fair value near $1,046 per share,  That upside is underwritten by three near-term catalysts: (1) regulatory green lights for orforglipron and retatrutide; (2) the staged start-up of Indiana and North Carolina plants that should double fill-finish capacity by 2026; and (3) accelerating global reimbursement for obesity treatment, particularly in Europe and Japan, where penetration is still low.

The risks are real. A harsher-than-modeled round of IRA price cuts, a manufacturing quality lapse, or a superior oral entrant from Pfizer or Novo could all crimp growth. Yet Lilly's scale, unmatched data on weight-loss efficacy, and massive capital program provide strong defenses, while diversification into Alzheimer's (Kisunla) and oncology (Jaypirca) offers secondary growth pillars.

Recommendation: Accumulate Eli Lilly for a 12- to 24-month horizon. Even after a historic run, the stock still trades at a discount to its long-run cash-flow potential, and forthcoming read-outs plus capacity expansions should keep earnings compounding well into the next decade.

Moving forward with the analysis of AbbVie's current positioning, emphasizing recent developments and future potential. AbbVie Inc. is a global biopharmaceutical company specializing in developing and marketing advanced therapies addressing complex and serious diseases. Its flagship products, including Humira, Rinvoq, and Skyrizi, target autoimmune conditions and significantly drive its revenues. AbbVie has been strategically dependent on acquisitions and mergers to supplement growth, diversify product offerings, and mitigate revenue concentration risks due to patent expirations. The pharmaceutical industry's competitive landscape analysis via Porter's Five Forces framework highlights several key factors influencing AbbVie's competitive positioning. The industry exhibits high barriers to entry, primarily due to substantial capital requirements, rigorous regulatory approvals, extensive research & development timelines, and stringent intellectual property protections. New entrants must navigate intensive capital expenditures, prolonged clinical trials, and uncertain regulatory outcomes, creating significant hurdles.

However, AbbVie faces considerable threats from substitute products, especially biosimilars and generic medications. As patents expire, particularly the loss of exclusivity for Humira in key markets, biosimilar competition poses significant revenue erosion risks. The bargaining power of consumers and health insurers is also intensifying, given increasing pressure to reduce healthcare costs. These buyers can leverage available alternatives to negotiate aggressively on pricing, impacting profitability. AbbVie's acquisitions strategy, while crucial for growth, also introduces notable risks and complexities. Past acquisitions have led to notable goodwill impairments and elevated restructuring costs, undermining expected benefits and profitability targets. Additionally, regulatory and antitrust scrutiny has intensified globally, posing threats of lengthy review periods, increased transaction costs, and potential deal blockages. Such scrutiny complicates future acquisitions, increases uncertainty, and may hamper strategic agility required to compete effectively.

Our valuation employed a combination of discounted cash flow analysis and analyst consensus valuations. Our intrinsic valuation by DCF methodology places AbbVie's fair value at approximately $194.84 per share. Examining near-term catalysts, AbbVie has promising late-stage trials and new drug approvals that could positively impact short-term performance. Pipeline advancements, particularly in immunology and oncology, may partially offset declines resulting from Humira's patent expiration. However, these are contingent on timely regulatory approvals and effective commercialization.

AbbVie's significant risks include: (1) Heavy dependence on key products, notably Humira, whose declining sales significantly affect overall revenues; (2) Exposure to stringent regulatory frameworks and intense pricing pressures that threaten profitability margins; and (3) Elevated legal risks stemming from acquisition strategies, including fiduciary mismanagement, transparency concerns, and antitrust complications. Consequently, our short-term recommendation remains cautious. Long-term prospects, however, warrant prudence due to acquisition-driven uncertainties, regulatory headwinds, and competitive pressures. Ultimately, we advise positioning towards exiting the stock to mitigate these accumulating risks, suggesting divestment upon achieving targeted valuation thresholds.

Johnson & Johnson (JNJ) is a household and a legacy name in the healthcare sector with a stable cash flow, and is a defensive-value name, with an increasing dividend for last 63 years.

Johnson & Johnson's post-Kenvue profile is the classic "steady compounder." Full-year 2024 sales rose 4.3 % to $88.8 billion as both Innovative Medicine and MedTech posted mid-single-digit operational growth. Management's first-quarter 2025 update kept the cadence: revenue advanced 2.4 % to $21.9 billion, and the company nudged its full-year guidance to $91–92 billion while reaffirming mid-single-digit EPS growth despite a $400 million tariff drag. Dividend discipline remains intact—the April raise marked 63 consecutive years of increases.

Scale still matters. J&J has pledged more than $55 billion of U.S. manufacturing, R&D, and digital infrastructure outlays over the next four years, including at least three new biologics plants. That spend supports durable franchises—oncology flagships DARZALEX and RYBREVANT, immunology workhorse TREMFYA—and extends MedTech's edge in electrophysiology and structural heart following the Abiomed and Shockwave deals. A late-stage pipeline spanning nipocalimab (auto-immune) and OTTAVA (robotic surgery) offers incremental optionality without jeopardizing the balance sheet.

Headwinds are real but manageable. Stelara has been tapped for the next round of Medicare price negotiations, with CMS signaling potential ~70 % discounts starting in 2027, and a U.S. judge recently threw out J&J's latest $10 billion talc settlement attempt, sending the fight back to civil courts. Yet negotiated pricing would hit only a mid-teens share of global revenue, and the company enters the legal fray with net-debt-to-EBITDA well below 1×, providing ample capacity to absorb adverse outcomes.

Our base-case DCF—built for the APM fund and stress-tested with a one-million-path Monte Carlo overlay—yields an intrinsic value of $181 per share. With the stock already in the portfolio and macro risks offset by dividend reliability and pipeline depth, we maintain a HOLD stance.

Holding JNJ a Defensive – Value, and LLY a Defensive – Growth company will provide us a balance of growth and value in our portfolio which will help us balance our portfolio growth under different economic scenarios given the current macroeconomic fluctuations.

# Monte Carlo Scenario Analysis

Our discounted–cash-flow framework delivers single-point fair-value estimates under three macro scenarios (bear, base, bull). To gauge how often the market might realize those cash-flow targets over the next year, we overlaid a Monte Carlo (MC) simulation on each company's equity price. The MC layer therefore complements the DCF by converting deterministic forecasts into a probability distribution of outcomes.

## Methodology

I. **Daily Drift** – We fitted an Elastic-Net regression to 25 years of daily returns, using lags of CPI, Core Medical CPI, Industrial Production, Unemployment, Fed-Funds, plus technical factors (moving-average momentum, realized vol, day-of-week) as predictors. Out-of-sample R^2 for Eli Lilly was ≈ 0.48, providing a sensible conditional mean return (μ) series.

II. **Volatility Process** – GARCH (1,1) on the drift residuals captured clustering and persistence in $\sigma^2$.

III. **Simulation Design** – For each name we launched 1,000,000 price paths of 252 trading days:

$$P_t = P_{t-1} \exp(\mu_t * \Delta t + \sigma_t * z_t),$$

$$z_t \sim N(0,1)$$

Initial prices were the closing spots on our valuation date (5 May 2025).

IV. **Outputs** – We recorded the terminal (t=252) price of every path and summarized the mean and 5-to-95 percentile band.

This approach does not account for rare shocks and big regime changes but still captures everyday macro effects and the usual volatility patterns that shape one-year returns.

## Monte Carlo v/s. Discounted Cash Flow

| | Monte Carlo (1-Year) | 5-95% Band | DCF Bear - Base - Bull | Take-Away |
|---|---|---|---|---|
| Eli Lilly (LLY) | $954.79 | $632 - $1367 | $687 - $1047 - $1191 | Even the 5th-percentile price clears today's spot ($~767). Roughly half the paths land inside or above the DCF base, giving >50 % odds of four-figure fair value within a year. |
| Abbvie (ABBV) | $206.68 | $149 - $278 | $151 - $194.8 - $221 | Mean is slightly above DCF base, but the left tail is heavy; success hinges on flawless pipeline execution. Confirms our SELL. |
| Johnson & Johnson (JNJ) | $171.48 | $133 - $216 | $134 - $181 - $204 | Mean sits a shade under base-case DCF; distribution is tight, reflecting litigation drag. HOLD stance is validated. |

## Findings

I. **Eli Lilly (LLY)** – The DCF says intrinsic value clusters around $1000 (base $1,047). The MC shows a 45% chance of hitting or beating that mark within twelve months, with substantial right-tail optionality.

II. **AbbVie (ABBV)** – Stochastic upside exists, yet the fat downside (>25% chance of sub-$150) underscores the asymmetric payout embedded in our cautious cash-flow scenarios and supports an exit call.

III. **Johnson & Johnson (JNJ)** – Market-implied drift plus volatility point to a fair shot at low-180s but little headroom beyond $216, mirroring our neutral DCF corridor.

# Future Considerations

## Economic Model

While the current models are statistically robust and offer a clear directional forecast, future iterations could benefit from:

I. Incorporating more real-time data, such as alternative credit metrics or commodity prices.
II. Exploring nonlinear models (e.g., regime-switching or threshold models) to capture turning points more effectively.
III. Introducing interaction terms or structural breaks to account for changing macro policy frameworks (e.g., the impact of the Inflation Reduction Act).

Continued monitoring and refinement of these models will be essential as the macroeconomic environment evolves, particularly in response to geopolitical risks, supply chain shifts, and domestic policy actions.

## Monte-Carlo Analysis

Our one-year horizon ignores multi-year compounding of macro shocks; integrating a vector-autoregressive macro block or a jump-diffusion extension would capture regime breaks more realistically. Nevertheless, at current risk parameters the MC overlay provides a quantitative bridge from deterministic DCF targets to actionable probability-weighted views, sharpening conviction in our BUY-HOLD-SELL triage across large-cap pharma.

## Portfolio Positions

For our first change we are recommending a buy on Eli Lilly, moving forward with its analysis, we need to track the growth of its super drugs Zepbound, Mujurno and any new developments in the field of diabetes and obesity drugs by Eli Lilly and its competitors.

We also need to keep an eye on the potential approval of Orforglipron, a drug which will directly compete with infamous Ozempic, which is expected to have a market capitalization of $150 billion in 10-years' time.

Moving forward with AbbVie analysis, it's essential to closely track quarterly earnings to gauge the operational impacts of generic and biosimilar competition, particularly regarding Humira's declining revenue trajectory. Additionally, we should focus on upcoming pipeline advancements and monitor regulatory updates concerning new drug approvals in immunology and oncology segments.

Finally, our strategic recommendation remains to maintain a cautious position, carefully observing valuation thresholds and market conditions. Ultimately, given the outlined risks and limited valuation upside, we advise preparing for eventually selling AbbVie.

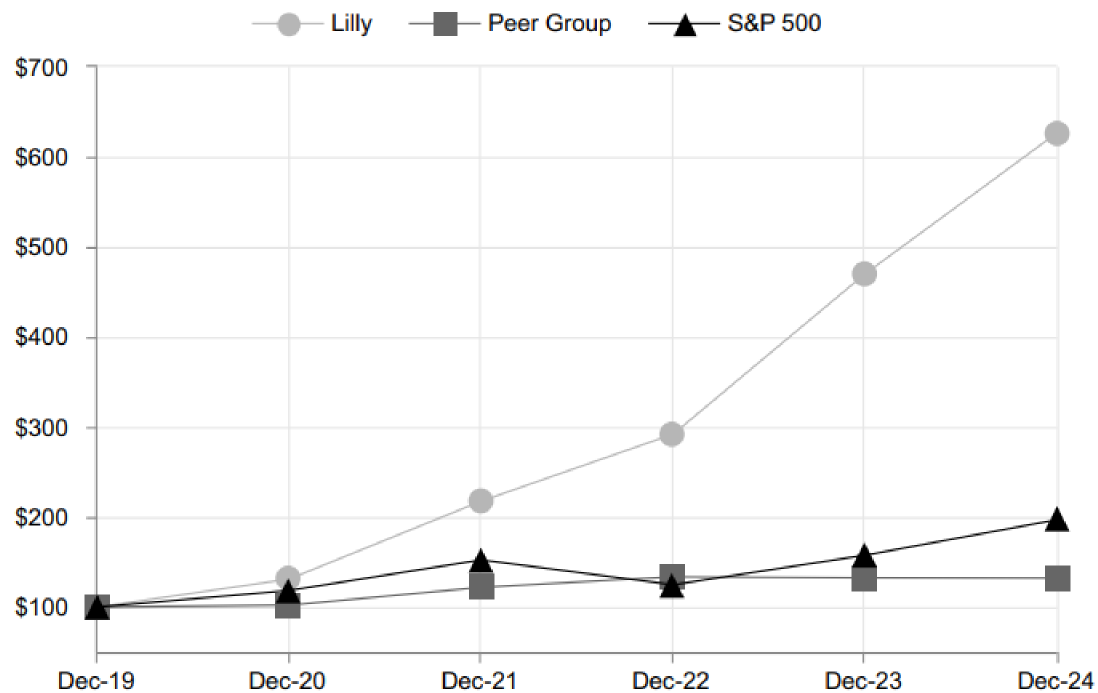
For our final company, JNJ which we currently hold in our portfolio, we recommend a hold for the position and for further analysis to keep an eye on any developments related to its ongoing lawsuit which can have major implication for the stock, while also keeping up with any new medicine launch by company.

Our Final Recommendation**:** **BUY** Eli Lilly (LLY) **|** **SELL** AbbVie (ABBV) **|** **HOLD** Johnson & Johnson (JNJ)

# Appendix

Exhibit 1:

**Value of $100 Invested on Last Business Day of 2019 Comparison of Five-Year Cumulative Total Shareholder Return Among Lilly, S&P 500 Stock Index, and Peer Group[(1)]**




| | Lilly | Peer Group | S&P 500 |
|---|---|---|---|
| Dec-19 | $ 100.00 | $ 100.00 | $ 100.00 |
| Dec-20 | 131.06 | 102.07 | 118.40 |
| Dec-21 | 217.66 | 121.90 | 152.39 |
| Dec-22 | 292.18 | 133.61 | 124.79 |
| Dec-23 | 470.13 | 132.57 | 157.59 |
| Dec-24 | 626.69 | 132.19 | 197.02 |

(1) We constructed the peer group as the industry index for this graph. It is comprised of the following companies in the pharmaceutical and biotechnology industries: AbbVie Inc.; Amgen Inc.; AstraZeneca PLC; Biogen Inc.; Bristol-Myers Squibb Company; Gilead Sciences Inc.; GlaxoSmithKline plc; Johnson & Johnson; Merck & Co., Inc.; Novartis AG; Novo Nordisk A/S; Pfizer Inc.; Roche Holding AG; Sanofi S.A.; and Takeda Pharmaceutical Company Limited. The peer group used for performance benchmarking aligns with the peer group used for executive compensation purposes for 2024.

Exhibit 2:

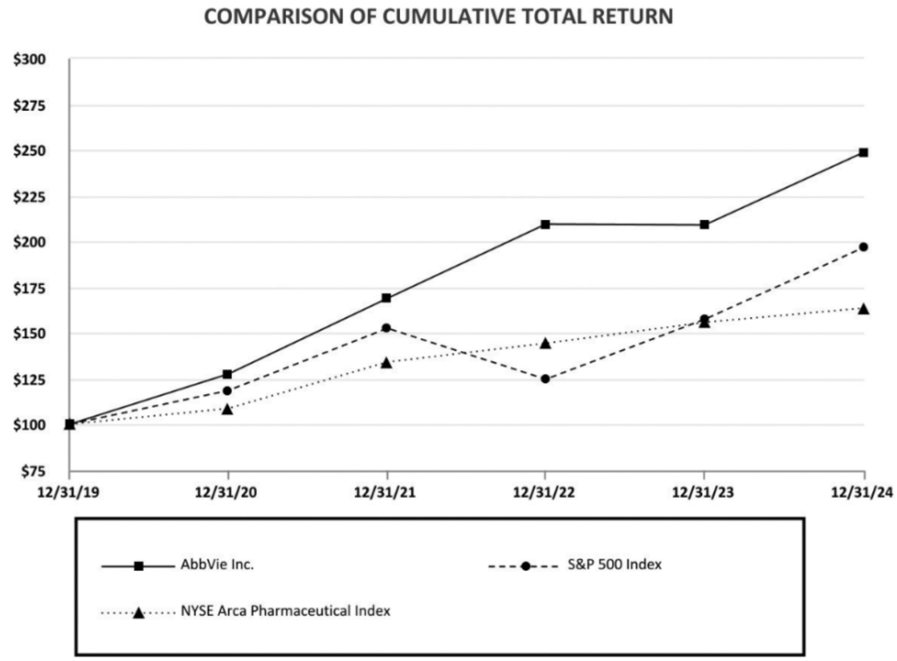
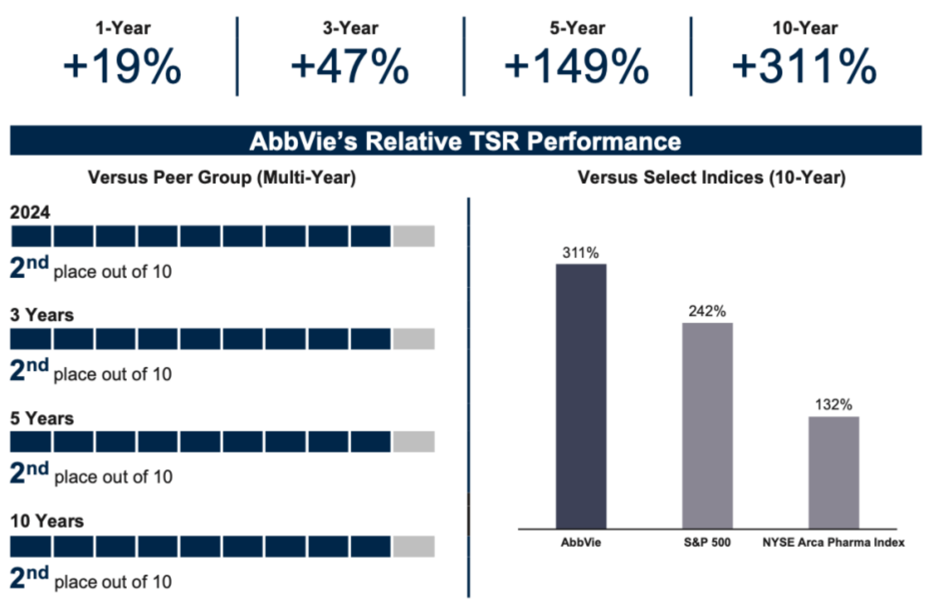



Exhibit 3:




**AbbVie's peer group above includes:** Amgen, Inc; Bristol-Myers Squibb Company; Eli Lilly and Company; Gilead Sciences, Inc.; GlaxoSmithKline plc; Johnson & Johnson; Merck & Company, Inc; Novartis AG; and Pfizer Inc. TSR measured as of 12/31/24.

Exhibit 4: DCF Valuation Spread – Eli Lilly (LLY)

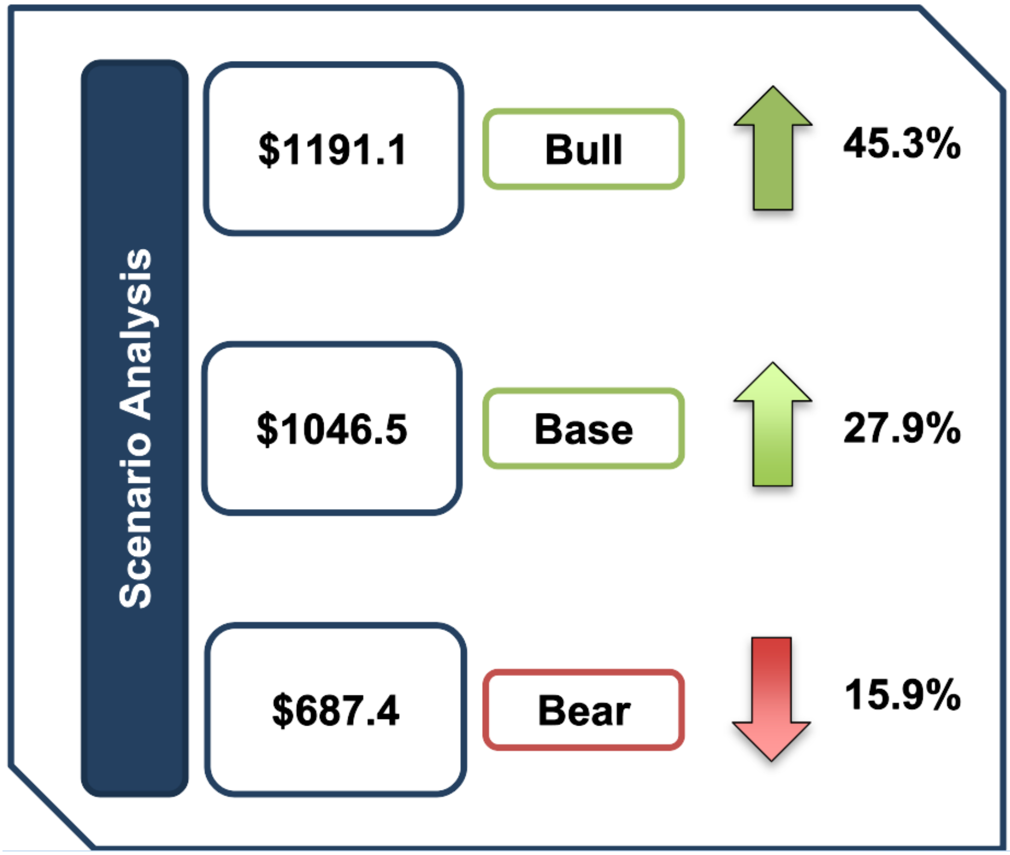



Exhibit 5: Monte-Carlo – Eli Lilly (LLY)

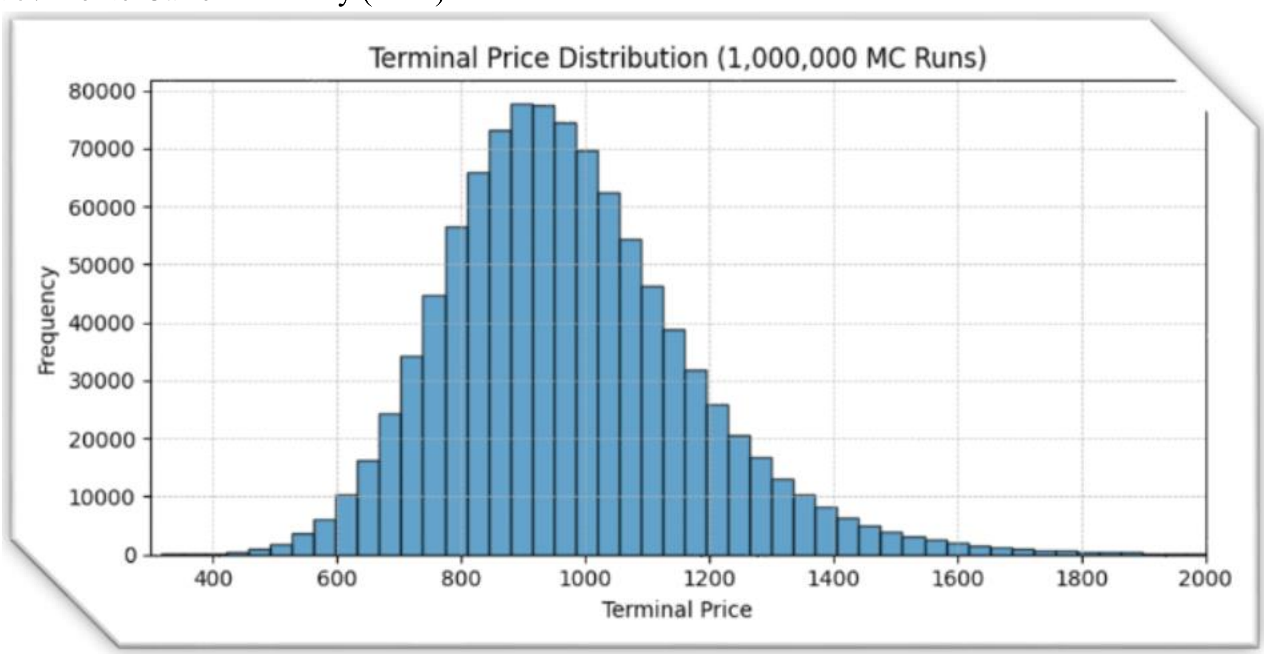


Exhibit 6: DCF Valuation Spread – AbbVie (ABBV)

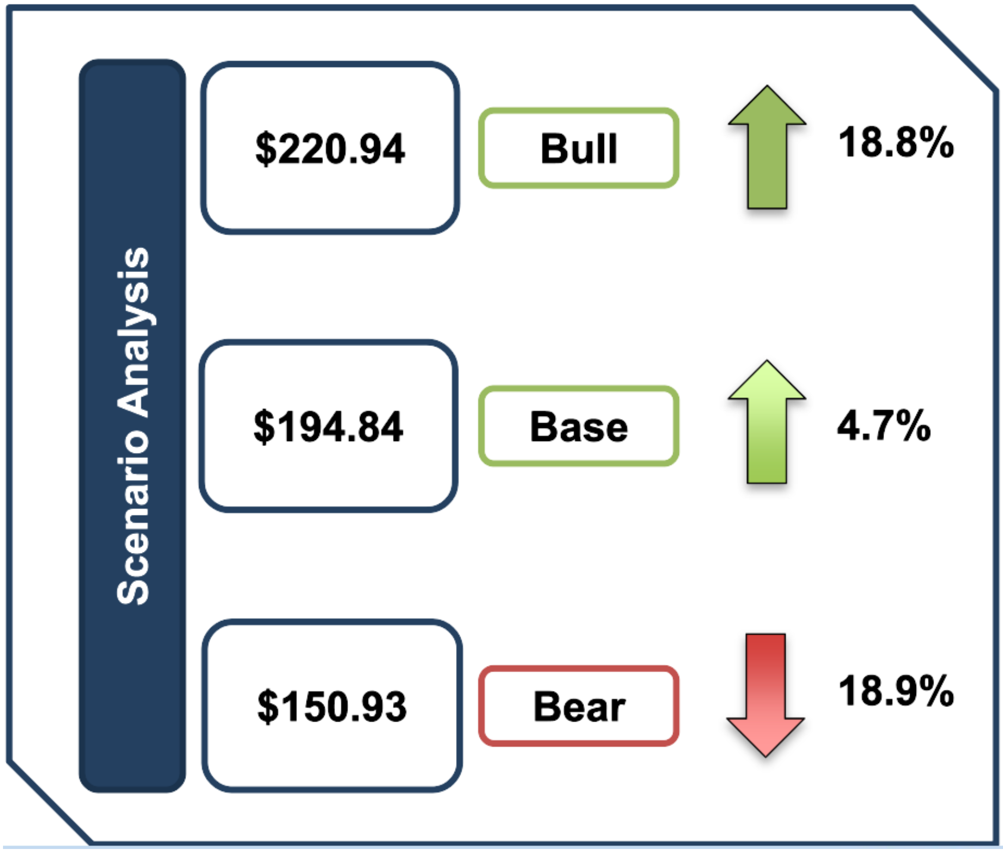



Exhibit 7: Monte-Carlo – AbbVie (ABBV)

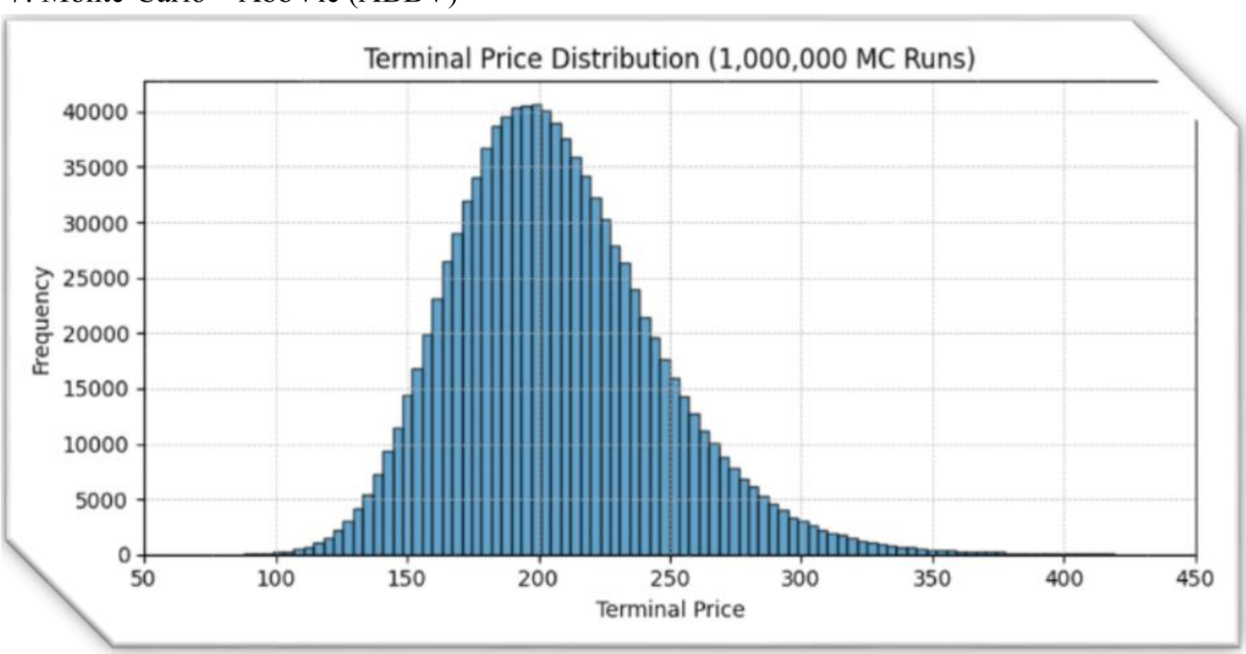


Exhibit 8: DCF Valuation Spread – Johnson & Johnson (JNJ)

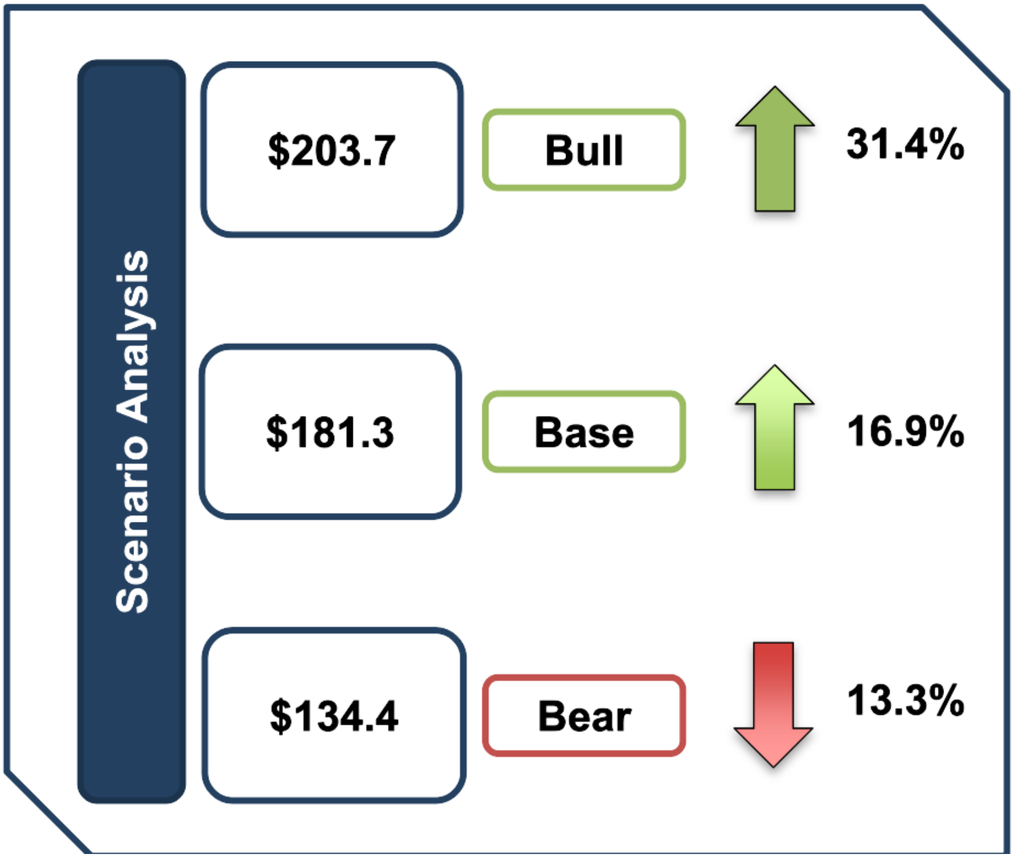



Exhibit 9: Monte-Carlo – Johnson & Johnson (JNJ)