Executive Brief: OO Price & Promo Sensitivity

Date: June 2025 | **Prepared by:** Pavlo Mysak, eCommerce Analyst

BLUF (Bottom Line Up Front)
Consumer response varies sharply in elasticity and promo responsiveness by channel. Promotions are most effective at Walmart and Albertsons, while Wegmans and Publix require deeper, more targeted discounting. These insights should guide retailer-specific pricing, promo depth, and trade investment decisions.

SITUATION
To understand how shoppers respond to pricing and promotions, we used regression models on YTD 2025 olive oil sales. The models estimated:

- Whether shoppers respond symmetrically to price increases vs. decreases
- Impact of promotions on unit sales
- Variation in promotional exposure and discount depth across price tiers

The models controlled for brand effects, distribution breadth (ACV), and promotional activity to isolate price responsiveness and promotional effectiveness.

RECOMMENDATION
1. Avoid price increases at Walmart where elasticity is highest (-0.49); even small increases may sharply reduce volume.
2. Use episodic, high-impact promotions at Wegmans and Publix, where shoppers respond more to promotions than shelf pricing.
3. At Albertsons and Kroger, prioritize steady, mid-depth discounts; their shoppers respond symmetrically to both increases and decreases.
4. Avoid one-size-fits-all pricing strategies; tailor promo depth and cadence by retailer.

COMPETITIVE ADVANTAGE
These retailer-specific elasticity estimates provide a data-backed roadmap to optimize trade investment and price strategy.

- Precision trade spending reduces wasted promotional dollars.
- Channel-aligned discounting maximizes volume response.

This research arms us with differentiated insights few competitors have operationalized.

CONSIDERATIONS
- Elasticities are averaged across brands; brand equity or loyalty may shift responsiveness in specific segments.
- Promotional effects may interact with seasonal cycles or flyer placement (not isolated in this analysis).
- These findings may be directionally relevant to other edible oils, but additional validation is required before applying them across categories.

Olive Oil Consumer Price Sensitivity

A Look at Albertsons, Wegmans, Kroger, Publix, & Walmart

Introduction

Understanding consumer price sensitivity is critical for brands and retailers aiming to optimize pricing, promotion, and distribution strategies in competitive categories such as edible oils. While price elasticity is often assumed to be symmetric, implying that consumers respond equally to price increases and decreases, behavioral research suggests that this assumption may not hold. Consumers may be more responsive to discounts than to equivalent price hikes, especially in categories with frequent promotions and broad brand competition.

This study investigates both symmetric and asymmetric price sensitivity in the olive oil category across five major U.S. retailers. Using log–log regression models with brand fixed effects, we estimate the elasticity of demand with respect to price per ounce (PPO), while controlling for distribution breadth and promotional activity. We further decompose price responsiveness into separate effects for price increases and decreases, allowing us to capture behavioral asymmetries in consumer response.
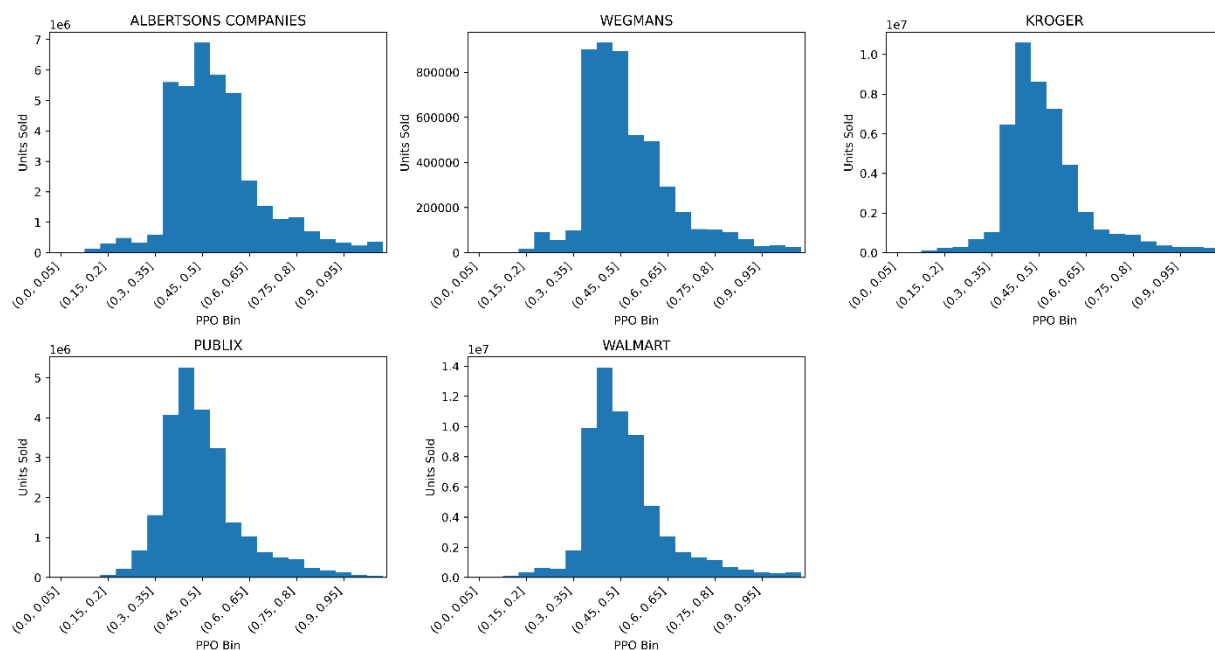

Figure 1: Units Sold by Price Per Ounce bin for each retailer.

By comparing these dynamics across Albertsons, Kroger, Publix, Walmart, and Wegmans, this analysis provides retailer-specific insights that can inform pricing strategies, promotional depth, and assortment planning decisions for both brands and retail partners.

Methodology

This analysis leverages retail sales data from the year-to-date (YTD) period beginning January 1, 2025, to examine price sensitivity in the olive oil category across five major U.S. retailers. The data includes weekly observations at the SKU level, capturing information on unit sales, pricing, promotional activity, distribution, and product characteristics.

Data Preparation and Filtering

The dataset was first filtered to include only weeks in 2025 and to focus on product sizes representative of standard household olive oil formats, specifically those ranging from 8 to 34 fluid ounces. To ensure statistical reliability, observations with fewer than 100 units sold in a given week were excluded. The final analytic dataset includes only SKUs with sufficient sales volume and complete data on pricing and distribution.

Promotional activity was identified using the variable ARP % Discount, Any Promo, with a binary flag (Promo Flag) created to indicate whether any promotional discount was in effect for a given SKU-week. The actual price paid by consumers (ARP) was constructed using a conditional logic: if a promotion was present, the discounted promotional price (ARP, Promo) was used; otherwise, the regular price (ARP, Non-Promo) was retained. To allow comparability across SKUs of different sizes, a price-per-ounce (PPO) variable was computed by dividing ARP by product size. The natural logarithm of PPO was used in the regression models to enable elasticity interpretation.

Symmetric Price Elasticity (Sensitivity) Model

In the symmetric specification, log-transformed unit sales (log(Units)) were regressed on the log of price per ounce (log_PPO), average percent ACV distribution (Avg % ACV), and the promotional flag (Promo Flag). Brand fixed

effects were included using one-hot encoding. This model assumes consumers respond equally to price increases and decreases.

$$\log(Units) = \beta_0 + \beta_1 \log(PPO) + \beta_2(ACV) + \beta_3(Promo\ Flag) + Brand\ FE + \varepsilon$$

Asymmetric Price Elasticity (Sensitivity) Model

To test for behavioral asymmetries in price responsiveness, the second specification splits the log price variable into two components: log_price_up and log_price_down. These were constructed by comparing the current week's ARP to the previous week's ARP. For weeks with a price increase, log_price_up takes the value of log_PPO; otherwise, it is set to zero. Similarly, log_price_down takes the value of log_PPO only in weeks with a price decrease. This specification allows for separate estimation of price elasticity for price increases versus price decreases.

$$\log(Units) = \beta_0 + \beta_1 \log(PPO\ Decrease) + \beta_2 \log(PPO\ Increase) + \beta_3(ACV)$$
$$+ \beta_4(Promo\ Flag) + Brand\ FE + \varepsilon$$

For both models, regressions were estimated using Ordinary Least Squares (OLS) with statsmodels in Python. All independent variables were standardized across retailer-specific subsets of the data, and models were fit separately for each retailer to account for heterogeneity in pricing dynamics and shopper behavior.

Promotional Activity

To better understand how retailers use promotions across different product price tiers, we conducted a descriptive analysis focusing on two key dimensions of promotional activity:

- The share of SKUs on promotion, and
- The depth of promotion, measured as the percent discount off the regular price.

The goal was to quantify how frequently products are promoted at different price levels and how aggressively they are discounted when on promotion.

To compute the proportion of SKUs on promotion for each price bin, the data was grouped by retailer, PPO Bin, and week. Within each group, we calculated the number of unique SKUs promoted versus the total number of SKUs available. Weekly percentages were then averaged over time to obtain a stable estimate of the average weekly share of SKUs on promotion per price tier.

For SKUs on promotion, we also measured the average percentage discount, using the field ARP % Discount, Any Promo. This metric reflects the intensity of price reduction when a deal is active. We calculated the mean and standard deviation of promotion depth for each price bin by retailer, providing insight into both the average magnitude and the consistency of discounting.

These promotional indicators were then visualized using bar charts (for % of SKUs on promotion) and box plots (for promotion depth), stratified by retailer. This descriptive approach enabled a comprehensive assessment of how different retailers structure their promotional strategies across the olive oil price spectrum.

Findings

Part A: Symmetric Price Elasticity

Table 1 presents the estimated coefficients from log-log regressions assessing the relationship between units sold and price per ounce (log(PPO)), distribution (Avg % ACV), and promotional activity (Promo Flag) across five major retailers. All models were specified with log-transformed units sold as the dependent variable and controlled for brand fixed effects.

Table 1:

Retailer	log(PPO)	Avg % ACV	Promo Flag
ALBERTSONS	−0.39***	0.08***	0.48***
KROGER	−0.42***	0.08***	0.45***
PUBLIX	−0.29***	0.06***	0.34***
WALMART	−0.49***	0.1***	0.49***
WEGMANS	−0.4***	0.06***	0.26***

Across all retailers, the coefficient on log(PPO) is negative and statistically significant at the 0.001 level, indicating consistent price sensitivity in the olive oil category. The estimated elasticities range from -0.29 at Publix to -0.49 at Walmart, suggesting that a 1% increase in price per ounce leads to a 0.29–0.49% decrease in unit sales. These results indicate that demand for olive oil is moderately elastic, with Walmart shoppers appearing to be the most price-sensitive.

Distribution, measured by Avg % ACV, is positively associated with unit sales across all retailers, with coefficients ranging from 0.06 to 0.10, all significant at the 0.001 level. This confirms that broader distribution is a key driver of volume, as each one-point increase in weighted ACV translates to a 6–10% increase in sales on average, holding other factors constant.

Promotional activity, captured by a binary flag for weeks in which a promotion was present for each SKU (Promo Flag), also demonstrates a significant and positive association with sales across retailers. The effect is particularly strong at Albertsons and Walmart (coefficients = 0.48 and 0.49, respectively), where promotions are associated with nearly 50% higher unit sales. Even at retailers with relatively lower estimates, such as Wegmans (0.26), the promotional impact remains meaningful and statistically robust.

Part B: Asymmetric Price Elasticity

Table 2 reports the estimated coefficients from a log-log regression model that allows for asymmetric price sensitivity to price increases versus price decreases. For each retailer, units sold were regressed on log-transformed price per ounce changes split into two variables: log(PPO Decrease) and log(PPO Increase). The model also controls for average distribution (Avg % ACV), promotional activity (Promo Flag), and includes brand fixed effects.

Table 2:

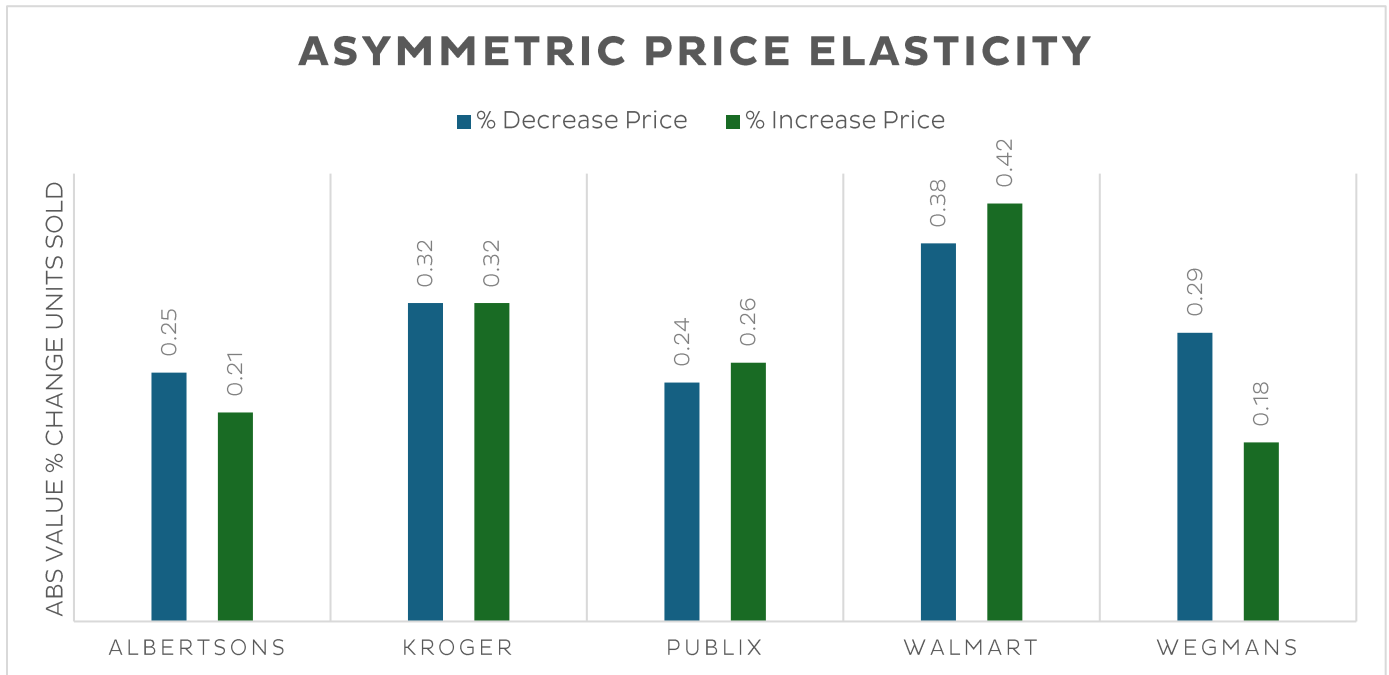| Retailer	log(PPO Decrease)	log(PPO Increase)	Avg % ACV	Promo Flag
ALBERTSONS	-0.25***	-0.21***	0.08***	0.49***
KROGER	-0.32***	-0.32***	0.08***	0.46***
PUBLIX	-0.24***	-0.26***	0.06***	0.34***
WALMART	-0.38***	-0.42***	0.1***	0.51***
WEGMANS	-0.29***	-0.18***	0.06***	0.24***

Figure 2: Asymmetric Price Elasticity Coefficients

Across all five retailers, the coefficients on both log(PPO Decrease) and log(PPO Increase) are negative and statistically significant at the 0.001 level, confirming that unit sales are responsive to both upward and downward price movements. However, the degree of price sensitivity is not always symmetric.

At Albertsons, Kroger, and Publix, price sensitivity is relatively balanced: the magnitude of the coefficients on price increases and decreases is nearly equal (e.g., –0.25 vs. –0.21 at Albertsons and –0.32 vs. –0.32 at Kroger), suggesting that consumers at these retailers respond similarly to price hikes and discounts.

By contrast, Walmart exhibits greater sensitivity to price increases than to decreases. The coefficient for log(PPO Increase) is –0.42, compared to -0.38 for price decreases, indicating a slightly stronger aversion to rising prices. Wegmans shows the opposite pattern: consumers are more responsive to price decreases (–0.29) than to price increases (–0.18), suggesting a more promotion-sensitive or deal-seeking consumer base.

As in the symmetric model, distribution and promotional activity continue to play significant roles. The coefficient on Avg % ACV remains positive and statistically significant across all retailers, ranging from 0.06 at Publix and Wegmans to 0.10 at Walmart, confirming that expanded distribution leads to higher unit sales. The Promo Flag coefficient is also positive and significant across all retailers, with particularly large effects observed at Walmart (0.51) and Albertsons (0.49), reinforcing the importance of promotional visibility beyond price alone.

These findings demonstrate that price elasticity in the olive oil category is not uniform: consumer response to price increases and decreases can vary by retailer, with some exhibiting more asymmetric behavior than others. Modeling price sensitivity asymmetrically provides a more nuanced understanding of demand dynamics and may help inform tailored pricing and promotional strategies across retail partners.

Part C: Promotional Activity

In the following section, we examine how promotions are allocated across the price spectrum, using price-per-ounce (PPO) bins to segment products by their relative pricing. For each retailer, we evaluate the share of SKUs on promotion within each price tier, allowing us to assess which segments of the market are most frequently supported by discounting activity. This breakdown provides insight into whether promotional support is concentrated among high-end products, evenly distributed across price bands, or skewed toward value-oriented offerings.

By exploring promotional exposure in tandem with price levels, we can better understand how pricing and promotions interact as complementary levers in retail execution. The following analysis offers a retailer-level view of how much of the assortment is typically on promotion by price tier, setting the foundation for deeper investigation into promotional intensity and effectiveness.

Figure 3: Average % of SKUs on Promo

ALBERTSONS COMPANIES

WEGMANS

KROGER

PUBLIX

WALMART
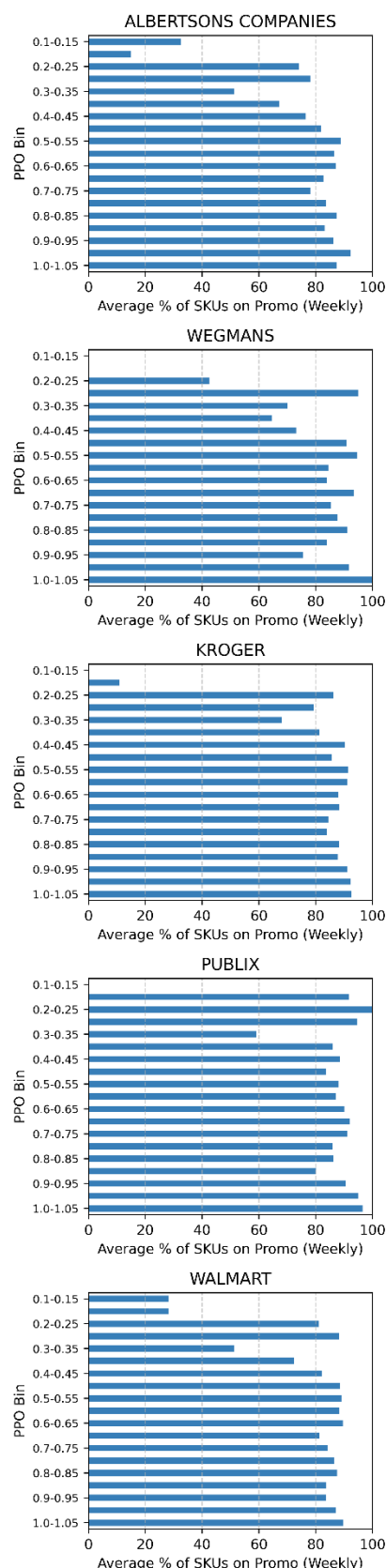
To better understand how promotions are distributed across the olive oil category, we analyzed the average weekly percentage of SKUs on promotion across different price-per-ounce (PPO) bins for the five major retailers: Albertsons, Wegmans, Kroger, Publix, and Walmart. The results reveal a clear trend: higher-priced olive oil products are far more likely to be on promotion than lower-priced alternatives, though the specific distribution varies by retailer.

At Albertsons, the share of SKUs on promotion rises steadily from 15–32% in the lowest PPO bands (under $0.20/oz) to over 92% in the $0.95–1.00/oz range. Similar trends are observed at Kroger, where the percentage of products on promotion increases from just 10.8% in the $0.15–0.20/oz bin to over 92% in the highest tier. Walmart, although a traditionally price-sensitive channel, displays a similar progression, with promotional rates starting at just 28% in the lower bins and climbing to nearly 90% at the top end.

Publix and Wegmans, retailers known for premium positioning, show even more dramatic tendencies. Publix displays over 90% of SKUs on promotion across nearly all PPO bins starting as low as $0.15/oz, peaking at 96.5% in the $1.00–1.05/oz bin. Wegmans follows a comparable pattern, with 100% of SKUs on promotion in the highest price tier and over 90% across most bins above $0.45/oz.

These patterns suggest a deliberate promotional strategy: higher-priced olive oils are far more likely to be supported by promotions, likely as a mechanism to increase accessibility and drive volume without compromising premium price positioning. Conversely, lower-priced items are rarely promoted, perhaps because their everyday price already appeals to value-driven shoppers.

This distribution also hints at retailer-specific promotion strategies. Wegmans and Publix appear to maintain high promotion rates even at mid-level price points, signaling a broader promotional strategy that supports both premium and mainstream oils. Albertsons and Kroger ramp up promotion intensity more gradually, focusing promotional support primarily on the premium segment. Walmart maintains relatively lower promo presence in the lowest tiers, but still shows strong promotional lift in higher PPO bins, possibly reflecting their tactic to selectively promote higher-margin items.
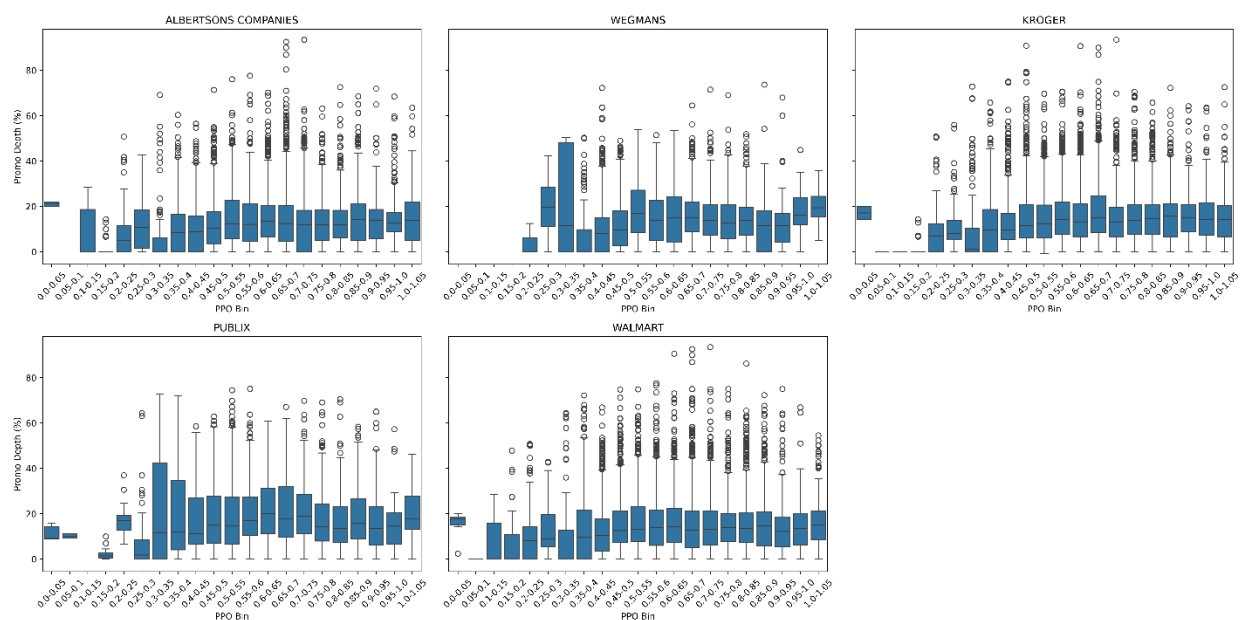

Figure 4: Promotion Depth by Price Per Ounce bin.

To complement the analysis of how frequently SKUs are promoted by price band, we further examined promotion depth, measured as the average percentage discount applied to SKUs that were on promotion. This analysis offers insight into not just how often items are discounted, but how aggressively retailers support each price segment.

Across all five retailers, we observe a general pattern: promotion depth tends to increase with PPO, peaking among mid- to high-priced products. However, the level and consistency of this support vary substantially across retailers.

At Albertsons, discount depth gradually increases with price. While low-priced items (e.g., $0.15–0.30/oz) receive average discounts under 13%,

higher tiers (e.g., $0.85–1.05/oz) show consistent discounting in the 14–15.5% range. Although these discounts are moderate, their low volatility suggest relatively consistent application, indicating a stable and systematic promotional strategy across premium products.

Wegmans exhibits more variability. Promotion depth in the lowest observable bins starts below 3%, but jumps to 20% or more for several mid-to-premium bins (e.g., $0.25–0.35 and $0.95–1.05/oz). However, these bins also show larger standard deviations, indicating greater inconsistency in discount levels. The volatility suggests that Wegmans relies on episodic deep discounts rather than a steady promotional strategy.

At Kroger, a more gradual and linear trend is observed. Promotion depth increases steadily from ~1.5% in the $0.15–0.20 bin to a consistent 15–18% range in the upper price tiers. The variation within bins is moderate, pointing to a well-calibrated promotional strategy where higher-priced items receive reliably stronger support.

Publix shows some of the deepest discounts in the category, with promotion depth often exceeding 20% in the $0.30–0.70/oz range. However, these bins also have high standard deviations—over 19% in some cases—indicating that while promotions can be aggressive, they are likely targeted and inconsistent across SKUs or weeks. This aligns with a promotional spike strategy, where selective deep discounts are used to drive short-term volume.

Walmart, despite its value-oriented reputation, displays consistent and meaningful promotion depth across mid-to-high price tiers. Average discounting falls in the 13–16% range from $0.35 to $1.05/oz, with fairly uniform application. This suggests Walmart uses modest but frequent discounts on premium offerings to attract price-sensitive consumers without eroding its EDLP (Everyday Low Price) image.

Conclusion

This study offers a detailed view into the price elasticity and promotional mechanics of the olive oil category across five major U.S. retailers—Albertsons, Kroger, Publix, Walmart, and Wegmans. Across all channels, consumers exhibit moderate price sensitivity, with symmetric model elasticities ranging from -0.29 at Publix to -0.49 at Walmart. These values

confirm that even modest pricing adjustments can influence unit sales volumes, with Walmart showing the steepest demand response. This is consistent with Walmart's positioning as a price-driven retailer, where small price increases may disproportionately impact consumer demand.

By disaggregating price responsiveness into upward and downward movements, the asymmetric model uncovers subtle but meaningful differences in shopper behavior. For example, Wegmans consumers are significantly more responsive to price decreases (-0.29) than increases (-0.18), reflecting a deal-seeking profile likely shaped by a high-low promotional strategy. Meanwhile, Walmart shoppers display the opposite tendency: stronger resistance to price increases (-0.42) than enthusiasm for decreases (-0.38), highlighting a more loss-averse consumer psychology.

Interestingly, Albertsons, Kroger, and Publix display relatively symmetric elasticity, where shoppers respond with comparable intensity to both price hikes and discounts. This suggests that in these retail environments, price moves in either direction can materially influence demand, creating a more balanced incentive for pricing interventions.

Distribution and promotional visibility remain foundational levers. Across all models, the average % ACV distribution is consistently and significantly associated with increased sales, underscoring the continued importance of shelf presence and in-store availability. Promotional activity, as captured by the presence of any deal, consistently delivers strong positive lift, particularly at Albertsons and Walmart, where promotions correlate with nearly 50% increases in unit sales.

In the symmetric elasticity model, the presence of a promotion is associated with a 26% to 49% increase in unit sales, depending on the retailer. This lift is most pronounced at Walmart (0.49) and Albertsons (0.48), suggesting that consumers in these channels are particularly responsive to the signaling effect of promotions, beyond just the price cut itself.

This promotional responsiveness likely reflects two complementary dynamics:

1. Price-conscious shopper segments at Walmart and Albertsons may be more attuned to promotional signage or in-store price tags,

interpreting them as cues of value even when the actual discount is modest.
2. Promotions may increase SKU visibility, either through endcaps, flyer features, or digital shelf highlights, compounding their effectiveness through attention and salience.

By contrast, Wegmans, despite its heavy use of promotions in premium price tiers, exhibits a smaller promotional coefficient (0.26). This may reflect a consumer base that is less swayed by discount presence alone and potentially more influenced by brand equity, product origin, or quality cues. It also aligns with Wegmans' episodic deep discounting strategy, suggesting that only substantial or strategically timed promotions trigger significant behavior change.

Notably, Publix and Kroger fall in the middle, with promotional coefficients around 0.34–0.45. These effects, though still substantial, point to moderate promo elasticity, where lift is present but not explosive. This aligns with their broader merchandising strategies, which blend EDLP items with cyclical promotions and club card incentives.

Taken together, these patterns emphasize that the effectiveness of promotions is both channel- and shopper-dependent. At Walmart and Albertsons, even light-touch promotions generate significant volume impact—implying a lower threshold for promo activation. At Wegmans or Publix, by contrast, promo lift may require more targeted execution, such as larger discounts, strategic timing, or bundling with in-store features.

Therefore, promotional planning in the olive oil category should not assume uniform returns to promotional presence. Brands and retailers alike should consider not only the frequency but also the depth, targeting, and context of each promotion, calibrating their strategies based on observed responsiveness within each retail partner.

The descriptive promotional analysis reveals that high-priced olive oil SKUs receive the lion's share of promotional attention across retailers. For instance, Kroger and Albertsons promote over 90% of SKUs in the highest PPO bins, while Wegmans and Publix maintain promotion rates exceeding 90% across both mid- and premium price tiers. This concentrated support of higher-priced products likely reflects a dual objective: stimulate trial of

premium items while preserving their price architecture through episodic discounts.

Promotion depth varies both across and within retailers. Albertsons and Kroger exhibit relatively low-variance discounting, indicating a structured promotional calendar. In contrast, Publix and Wegmans demonstrate high-variance depth, with some discounts exceeding 20% but deployed inconsistently. These patterns suggest differing philosophies, where some retailers aim for consistent uplift, others seek opportunistic volume spikes.

The consumer response to price and promotions is far from uniform, even within a single CPG category. Retailer-specific dynamics, rooted in shopper demographics, brand mix, and promotional culture, shape the degree and direction of price elasticity. Understanding these nuances is critical for both brands and retail partners seeking to optimize trade investment, defend margin, and grow volume in a competitive edible oils landscape.