

## Sample and Methodology

#### Sample

- 1,267 price records
- 175 stores from 3 chains (Carrefour, Oba and Savegnago)
- 70 cities across 16 states
- Concentration in the Southeast, especially SP (~74%)

#### **Products**

- 42 distinct products analyzed
- Classified by species and presentation
- Complete list available

### Methodology

- Price per kg = (price / weight\_grams) × 1000
- Median as central metric (reduces outlier effect)
- Store clusters via PCA and grouping

## **Executive Summary**

The Brazilian cod market presents distinct characteristics that offer significant strategic opportunities for product positioning and pricing.

Analysis of 1,267 records reveals a concentration in the Southeast (73.6% in São Paulo), with notable differences between species and cuts.

Premium Pricing	Species Variation	Regional Variation
Gadus morhua commands a significant price premium: +27.4% on frozen loins compared to generic cod.	In salted flat cuts, <i>G. morhua</i> prices are +97.8% above Ling and +167.6% above Saithe; Porto Imperial adds an additional +51.2%.	The Southeast region trades at ~4% below the national average for entry-level cuts (flakes and desalted portions).

Price Dispersion	Retail Gap
High dispersion in frozen fish cakes (CV 23.4%), versus stability in <i>G. morhua</i> portions (CV 6.2%).	OBA (R\$199.90/kg) vs. Carrefour/Swift (R\$136.50/kg) = +46.4%.

## Market Position & Pricing

# Species Premium (Salted Flattened)

Species	Median R\$/kg	Gap vs. Morhua
Gadus morhua	169.90	
Ling	85.90	+97.8%
Saithe	63.49	+167.6%
Porto Imperial (G. morhua)	256.90	+51.2% vs. standard Morhua

# Southeast vs. National (median R\$/kg)

Cut	National	Southeast
Generic frozen loin	156.90	155.89
Generic frozen shredded	99.22	99.22
Generic desalted fillet	81.81	78.61
Generic salted flakes	39.38	37.80

23.4%

6.2%

46.4%

Chain Price Gap

Frozen Cod Balls CV

Stable, premium reference

Frozen Morhua Fillet CV

Price difference between OBA (R\$199.90/kg) and Carrefour/Swift (R\$136.50/kg)

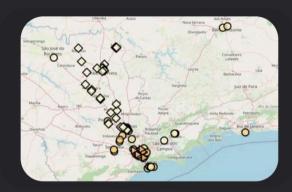
Very unstable, sensitive to promotions/brands

## Geographic Price Distribution

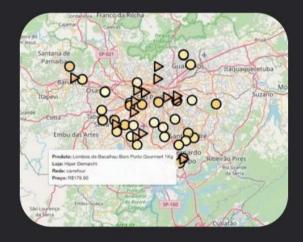
Below we present a sequence of maps with price data for "Frozen Cod Loins" where the color intensity represents the prices of each item by store and location, and the geometric shape represents the corresponding retail chain:



Brazil



Southeast Region



São Paulo City

The maps reveal distinct pricing patterns across regions, with concentrations of higher prices in metropolitan areas and significant variations between retail chains.

## Promotional Strategy

## **Key Indicators**

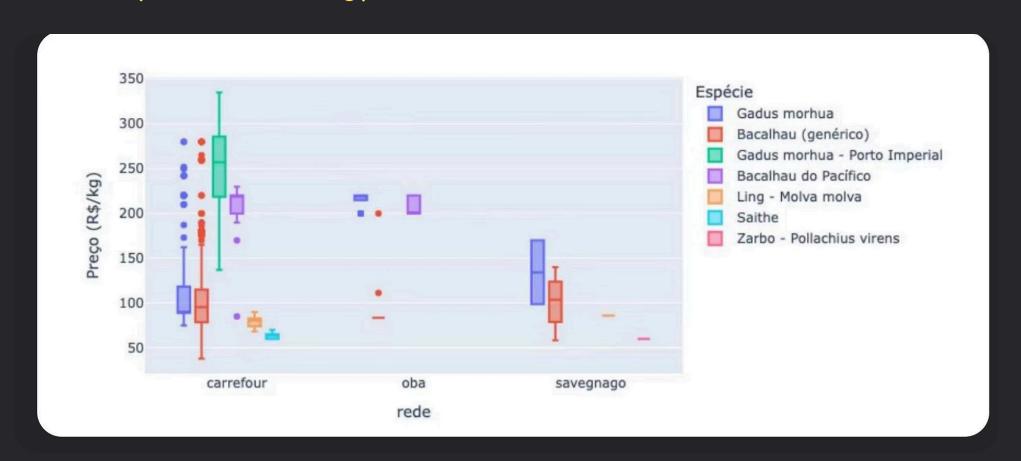


promotions

discounts

### Price Dispersion Strategy

promotion in the total sample



The graph demonstrates price dispersion by product category, highlighting distinct strategies among retailers and opportunities for promotional optimization.

## Store Clusters Analysis

## **Principal Components**

# PCA1 (general price level)

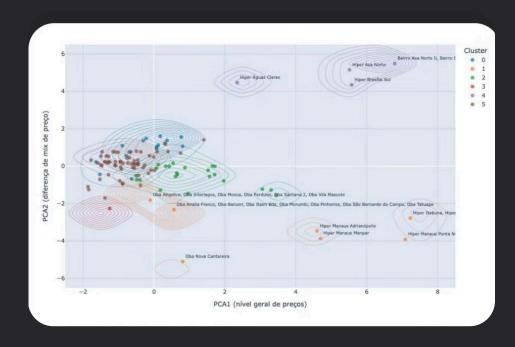
If positive, indicates stores with relatively higher prices; if negative, lower prices.

# PCA2 (price mix/dispersion)

Positive values suggest more dispersed mix, negative values suggest more concentrated mix.

## Geographic Distribution

Shows whether the cluster is regionalized or more widespread.





PCA of Stores by Price Profile - 4 grouped (0.001 tolerance)

## Cluster Analysis Results



#### Cluster 4

5 stores with the highest prices, signaling a premium profile.



#### Cluster 1

19 stores with higher price level and relatively homogeneous.



#### Cluster 3

1 outlier store due to its isolated position on the PCA axes.



#### Cluster 5

108 stores representing the predominant pattern of average price in the market.



#### Cluster 0

17 stores with lower average prices and high mix dispersion.



#### Cluster 2

25 stores with behavior close to Cluster o, but with greater internal variation.

The results show that, despite the predominance of a centralized price pattern (Cluster 5), with 108 stores, there are specific pockets of differentiation:

- Clusters 1 and 4 represent stores with a more premium profile, involving 24 stores.
- Clusters 0 and 2 position themselves with more competitive prices, with 42 stores.
- Cluster 3 should be treated as a singular case.

## Regional Distribution

#### Southeast

Concentrates most stores, reflecting higher urban density and retail competitiveness, especially in São Paulo.

#### Northeast

Relevant presence, with clusters spread between groups 2 and 5, showing greater heterogeneity of profiles.

#### South

Appears in smaller proportion, but aligned with the average pattern of Cluster 5.

#### Center-West

Appears in smaller proportion, but aligned with the average pattern of Cluster 5.

#### North

Although with fewer observations, it brings points in distinct clusters, reinforcing regional diversity.

## Strategic Insights & Conclusion

### Popular

- Low prices
- Smaller packaging
- Strong sensitivity to promotions

### Intermediate

- Median prices
- Consolidated urban consumption
- Balance between price and quality

### Premium

- Premium cuts
- Origin storytelling
- Higher margins

## Strategic Implications:

### Regional Differentiation

Opportunity to adjust assortment by cluster, geographic and consumption profile.

### Margin Capture

Potential in premium categories (e.g., G. morhua, Porto Imperial) with significantly higher margins.

### **Promotion Management**

Need for specific strategy for high dispersion products (cod balls, flakes).

#### Value Communication

Room to reinforce origin and quality as drivers of choice in the premium segment.

### Prepared by



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