

Impacts of EPR Fees on Purchases & Pricing

An analysis of manufacturer-margin and consumer-substitution risk across 24 verified grocery categories in the wake of EPR

Prepared for NERC Rethink Resource Use Conference

Preliminary Results

APPROACH

Real shelf prices, matched to statutory fees, scored against published category benchmarks

01

Collect

Kroger public API prices for 2,357 products across 16 Colorado & Oregon stores, compliant, credentialed collection only.

24,313 price rows



02

Match & verify

Each price matched to the product's workbook EPR fee by UPC. Matches are graded exact / manually verified / unverified proxy; only the first two count as "verified."

13,632 priced rows



03

Score

Fee run through category-level elasticity (Andreyeva et al. 2010) and, for 22 of 24 deck categories, real manufacturer operating margins from public 10-K/segment filings (Tyson, Smucker, Campbell's, Saputo, and others) rather than a generic proxy.

26 categories × 2 states

Confidence varies by category. Results in this deck cover the 24 of 26 categories with enough verified price data. Full method, sources, and limitations in the appendix.

FRAMING

A packaging fee can land on the business in one of two places

IF THE MANUFACTURER ABSORBS IT

Margin pressure

Fee ÷ manufacturer operating-margin dollars

The fee eats directly into profitability. High values mean the category has little room to absorb the cost without a margin hit.

IF THE FEE REACHES SHELF PRICE

Substitution risk

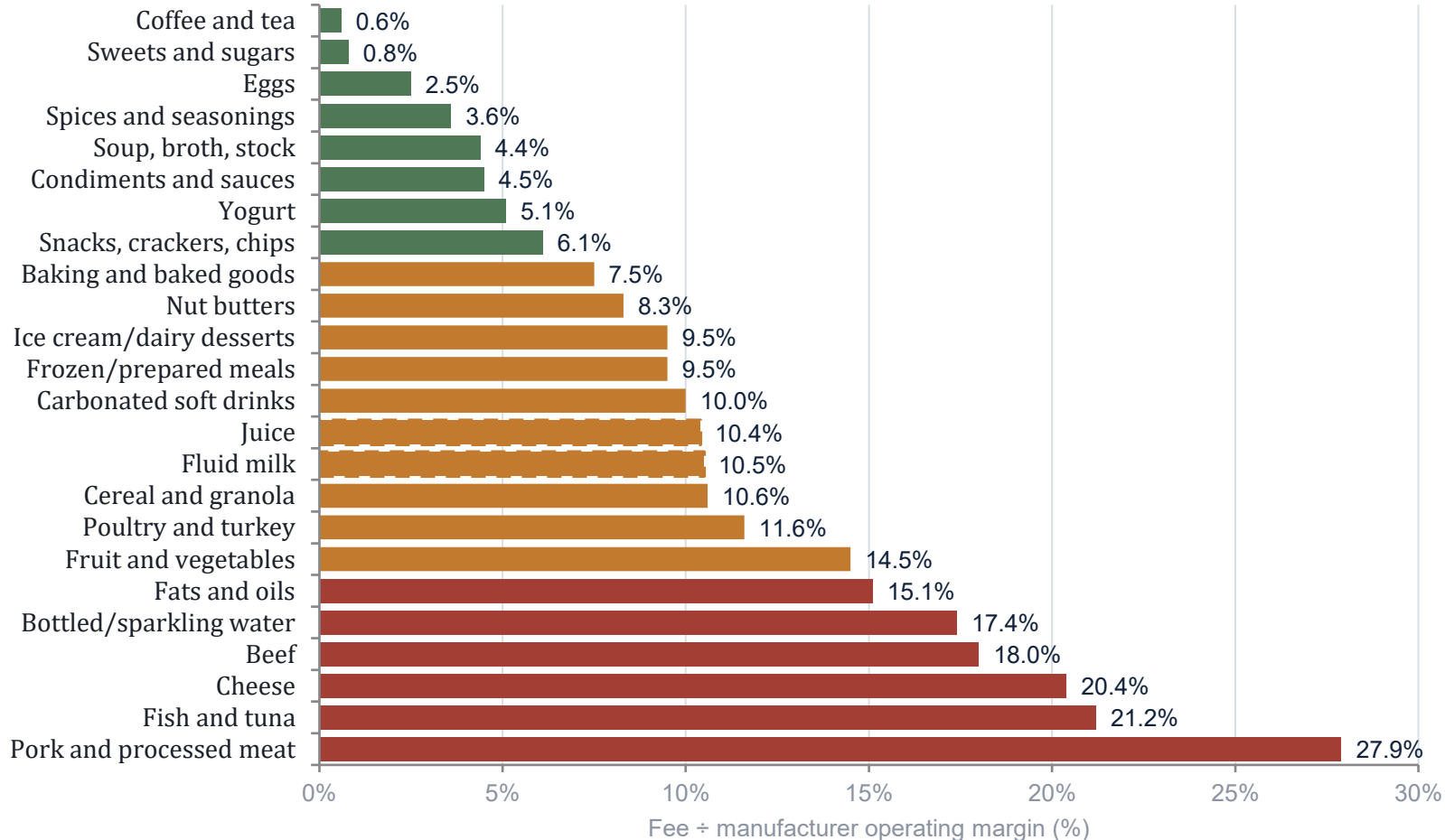
Elasticity × price increase = expected quantity loss

The fee passes through dollar-for-dollar. High values mean price-sensitive shoppers are likely to switch category or brand.

Both are scored for every category below. They are not mutually exclusive, and a category can rank high on one and low on the other.

THE HEADLINE FINDING

Pork, fish, and cheese carry the sharpest margin pressure: risk is not spread evenly



HOW TO READ THIS

Share of manufacturer operating-margin dollars the EPR fee would consume if fully absorbed, with no consumer price change.

- High risk: 15%+ of manufacturer margin
- Moderate: 6.5–15% of margin
- Lower risk: under 6.5% of margin

Pork and fish & tuna lead on thin real margins. The bottom of the list is the mirror image: coffee (28.3%, Smucker), eggs (36.1%, Cal-Maine) and sweets (26.3%, Hershey) all clear 25%+ margins, so the same fee barely registers. PS trays and heavy glass also drive the fee itself, not just margin (next slide). Juice and fluid milk (dashed outline) still run on the flat default. Full sourcing in Appendix B.

MARGIN PRESSURE, IN DETAIL

Pork, fish, and cheese lead, each on a thin real margin

PORK & PROCESSED MEAT

27.9%

of manufacturer operating margin, if fully absorbed

Avg. price \$7.07

Avg. fee 3.36¢

Verified n 18

Full citation: Appendix B

FISH & TUNA

21.2%

of manufacturer operating margin, if fully absorbed

Avg. price \$2.35

Avg. fee 1.40¢

Verified n 11

Full citation: Appendix B

CHEESE

20.4%

of manufacturer operating margin, if fully absorbed

Avg. price \$4.44

Avg. fee 3.05¢

Verified n 20

Full citation: Appendix B

Why it happens: pork carries a real, company-specific Tyson segment margin that turns out to be thin (3.1%), while fish & tuna's real 5.3% margin (Thai Union, whole company, adjusted) and cheese's real 5.5% margin (Saputo, whole company) are both thin in their own right. Fish & tuna's source is the weakest fit of any category in this deck, and its verified set is also the thinnest of the top five (Appendix B); see Appendix B before treating #2 as settled.

THE MECHANISM

What actually drives a high fee: material rate, or product weight

PS TRAYS

14 of 35

of the highest-risk products are dominated by a PS tray

OR rate **0.30¢/g**

vs. glass **14×**

Used by **beef, pork, poultry**

Full detail: Section 2.10, field report

MIXED MATERIAL

4 of 35

are mixed-material pouches or bags, not a tray at all

OR rate **0.22–23¢/g**

vs. glass **10×**

Example **the Section 2.4 mozzarella**

Full detail: Section 2.10, field report

GLASS BOTTLES

4 of 35

are glass bottles anyway, despite the lowest rate in the panel

OR rate **0.022¢/g**

Rank **lowest in panel**

Bottle mass **268–600g**

Full detail: Section 2.10, field report

The mechanism: two different causes, not one. PS trays and mixed-material pouches carry this panel's highest per-gram EPR rates, a schedule choice, not something a manufacturer controls day to day; switching material class is a real lever. Glass is the opposite: the lowest per-gram rate in the panel, but a 268–600g bottle is heavy enough on a \$1–2 product that mass alone drives the fee, a near-fixed cost per bottle with no rate lever to pull. Full component-level breakdown (every part, material, mass, and CO/OR cost): the product-level CSV.

FEES ARE CONSISTENT NOT THE SAME

Oregon's fee schedule costs more almost everywhere, except fresh tray-packaged meat

COLORADO

0.76%

avg. fee, share of shelf price, own schedule

Stores 8

Range 0.74–0.78%

Matched pairs 5,566

Every CO store within 0.02 pts of average

OREGON

1.22%

avg. fee, share of shelf price, own schedule

Stores 8

Range 1.17–1.28%

Ratio vs. CO 1.6×

Same matched products; only the schedule changes

THE EXCEPTION

3 of 26

categories where Colorado costs more, not Oregon

Beef 9.40¢ vs 8.62¢

Poultry & turkey 9.31¢ vs 9.25¢

Mixed ground meat 14.58¢ vs 13.15¢

All fresh, tray-packaged; Colorado's tray rate runs higher

Why it happens: restricting each store to its own real schedule and matching identical products across both (n=5,566 pairs), Oregon costs more in 23 of 26 categories, but Colorado's tray-weight rate on fresh meat reverses that for beef, poultry, and the newly split-out mixed ground meat category (Appendix B). All three are built on fresh tray-packaged meat. The reversal is strongest for mixed ground meat (80% of matched pairs), then beef (72%), then poultry (58%, the thinnest of the three). Full method and a scope caveat on this panel: Appendix A & B.

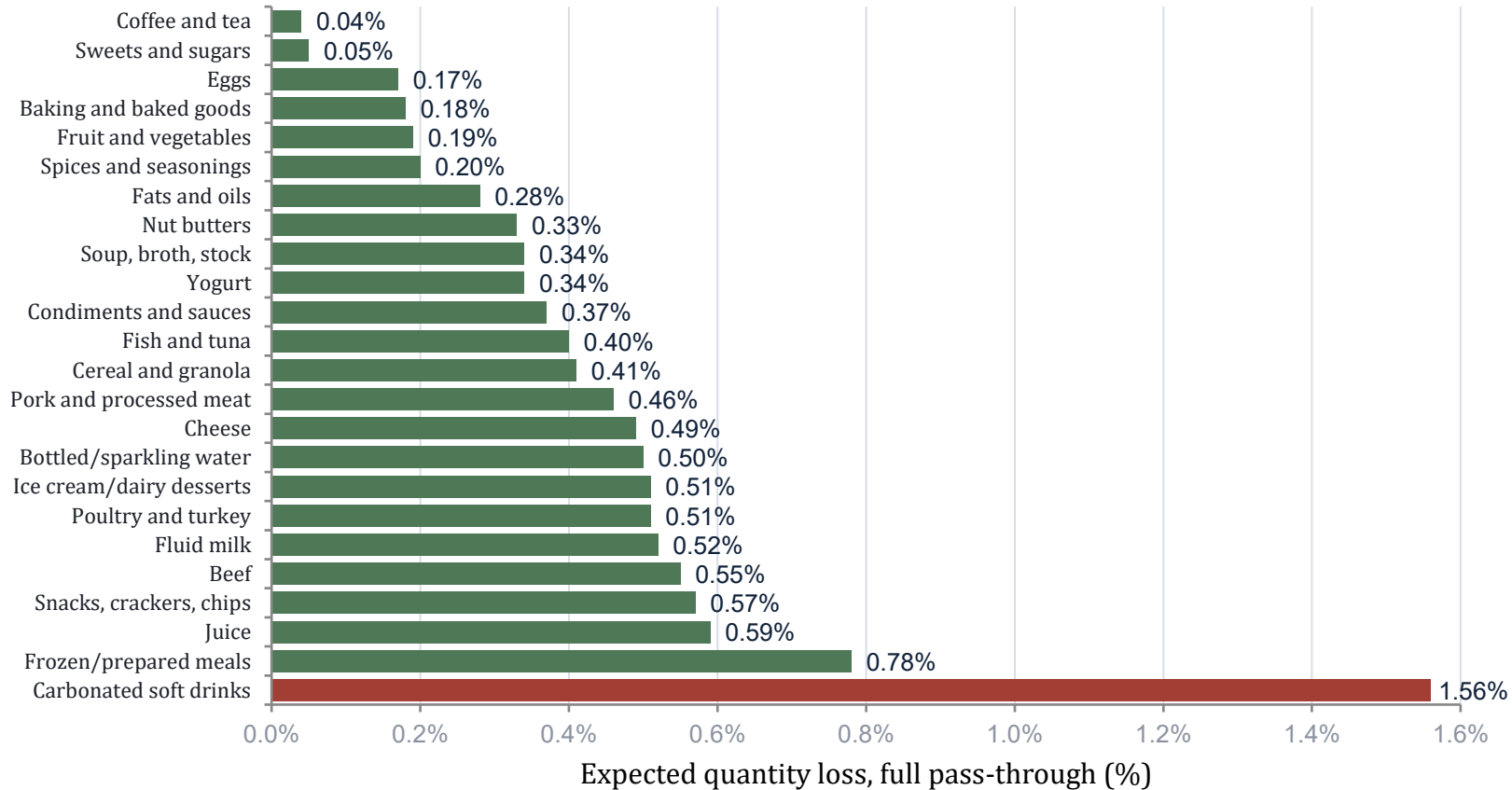
RISK OVERVIEW

Beef and bottled water score high on margin risk; soft drinks stands apart on elasticity

Category	Price (lower = more exposed)	Fee (¢)	Margin risk (fee ÷ mfr. margin)	Elasticity (switching risk)
Beef	\$13.86	9.86¢	18.0%	0.75
Bottled/sparkling water	\$4.76	2.99¢	17.4%	0.60
Poultry & turkey	\$8.55	6.49¢	11.6%	0.68
Cereal & granola	\$4.03	2.37¢	10.6%	0.60
Fluid milk	\$4.90	3.92¢	10.5%	0.59
Juice	\$5.01	3.51¢	10.4%	0.76
Carbonated soft drinks	\$2.78	4.32¢	10.0%	0.79
Frozen/prepared meals	\$5.59	2.78¢	9.5%	0.80
Baking & baked goods	\$5.49	1.67¢	7.5%	0.50
Snacks, crackers, chips	\$4.37	3.80¢	6.1%	0.60
Condiments & sauces	\$5.38	2.66¢	4.5%	0.59
Soup, broth, stock	\$4.26	2.38¢	4.4%	0.59
Coffee & tea	\$12.93	1.24¢	0.6%	0.35

Darker cells = higher relative value across these 13 categories. Beef and bottled water are dark on margin risk; soft drinks is dark only on elasticity. This detail view holds the original 13 categories. Pork, fish & tuna, and cheese now outrank all of them (27.9%, 21.2%, and 20.4%); see the full 24-category ranking on slide 4.

Substitution risk is concentrated in soft drinks; everywhere else, it's smaller



1.56%

Soft drinks is the one category with a meaningfully elevated expected quantity loss if the fee reached shelf price

Every other category stays under 0.9%.

Bootstrap-checked (Section 2.8): clears every category but one, narrowly. Combined with slide 4, soft drinks is now a pure consumer-switching story: its real manufacturer margin is large enough (27.9%) that margin pressure is low. Bottled water, beef, and poultry are the opposite: margin-pressure stories with negligible switching risk. Every elasticity here is under 1.0, so pass-through likely pays for itself in revenue.

Red = the one category with meaningfully elevated switching risk. Green = every other category: all low, and statistically similar to each other (Section 2.8).

EXTREMES WITHIN CATEGORIES (COLORADO)

The average hides real spread. The worst product in a category can run up to 9x higher

Category	Avg., % of mfr. margin	Worst product in category	Worst product, % of mfr. margin	Worst vs. category avg.
Beef	18.0%	Ground beef (\$12.00)	34.6%	1.9x
Bottled/sparkling water	17.4%	Sparkling water beverage (\$1.00)	52.2%	3.0x
Poultry & turkey	11.6%	Ground turkey (\$10.00)	32.2%	2.8x
Cereal & granola	10.6%	Instant oatmeal (\$1.79)	37.4%	3.5x
Fluid milk	10.5%	2% reduced fat milk, chocolate (\$4.79)	21.8%	2.1x
Juice	10.4%	Apple juice (\$2.50)	24.3%	2.3x
Carbonated soft drinks	10.0%	Cola (\$1.00)	31.7%	3.2x
Frozen/prepared meals	9.5%	Pork ramen (\$0.55)	85.9%	9.0x
Baking & baked goods	7.5%	Sweetened coconut flakes (\$1.89)	18.1%	1.9x
Snacks, crackers, chips	6.1%	Pork skins (\$2.89)	36.0%	5.9x
Condiments & sauces	4.5%	Pork-flavored gravy mix (\$0.99)	11.8%	2.6x
Soup, broth, stock	4.4%	Chicken-flavor bouillon (\$1.49)	8.7%	2.0x
Coffee & tea	0.6%	Sweetened black tea, bottled (\$3.49)	2.6%	4.7x

Why it happens: EPR fees track packaging weight, not price, so the same fixed fee eats a much bigger share of margin on a cheap product than an expensive one in the same category. Frozen meals averages a moderate 9.5%, but one \$0.55 pork ramen SKU sits at 85.9%, nearly wiped out by the identical fee its pricier siblings barely notice.

Manage this per SKU, not only at the category average (slide 4).

Impacts of EPR Fees on Purchases & Pricing – Preliminary Results

A SIGNAL WORTH ESCALATING, CAREFULLY

4 products already cross 100% of estimated margin; 5 more are within 25 points of it

Worth reading carefully: this is a screening signal, not proof that any single product is unprofitable. These are the SKUs where the fee-to-margin math is tightest, worth a company-specific look before trusting the category average. Sourcing detail in Appendix B.

Product	Category	Price	State	Fee ÷ est. margin
Mozzarella cheese (Nash Finch)	Cheese	\$3.69	OR	175%
Sparkling water (Finlay Extracts)	Bottled/sparkling water	\$1.00	OR	128%
Sparkling water (Jarritos)	Bottled/sparkling water	\$1.79	OR	105%
Sparkling water (Faygo)	Bottled/sparkling water	\$1.29	OR	102%
Sparkling water (Safeway)	Bottled/sparkling water	\$1.29	OR	98%
Instant oatmeal (UNFI)	Cereal & granola	\$1.79	OR	93%
Ground pork (Perdue)	Pork & processed meat	\$4.39	OR	80%
Ground pork (Kroger)	Pork & processed meat	\$4.39	OR	78%
Pork ramen (Kroger)	Frozen/prepared meals	\$0.55	OR	78%

The pattern: The 4 products already over 100% are a \$3.69 mozzarella (cheese's real margin is 5.5%, Saputo) and three cheap, off-brand sparkling waters (water's real margin is 6.5%). The 5 approaching it add pork in two forms, ground pork and pork ramen (Tyson's real pork margin is 3.1%), plus an instant oatmeal. A Martinelli's apple juice was removed from an earlier version of this list: its \$1.50 price was a single-bottle price mismatched against a multi-bottle case fee, not a genuinely thin-margin product (field report, Section 2.9).

WHAT'S NEXT

Preliminary Research: With More Data Layers to Come

1. Expansion of Product Information in the Study
2. Integration of Census & Socioeconomic Data
3. Inter-category & Ecomodulation Analysis
4. Integration of CAA initial EPR Results
5. Peer-Review & Publication of the Research



If you want more information or just want to
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Thank You