

INDUSTRY UPDATE

NOVEMBER - DECEMBER 2023

RESINS & RAW MATERIALS SECONDARY PACKAGING OCEAN FREIGHT DOMESTIC TRANSPORT



RESINS & RAW MATERIALS

Berlin Packaging maintains a best-in-class approach to sourcing packaging materials and manufacturing platforms. We are not bound to a specific material or technology, affording us tremendous flexibility to find the most cost-effective packaging solutions for our customers.

RESINS & RAW MATERIALS

Prices for some packaging raw materials have risen recently, driven by increasing feedstock costs for several plastic resins. Spikes in crude oil prices, fluctuating commodities production, and tightening supplies of feedstocks are contributing to the higher costs.

While inflation has not fallen to the Federal Reserve's 2% annual target, it has receded significantly from its 9.1% peak in June 2022. In September, the Producer Price Index for final demand goods and services rose 0.5% and advanced 2.2% for the preceding 12 months. Another inflation measure — the Consumer Price Index — climbed by 0.4% in September and was up 3.7% for the preceding 12 months.



CPG UNIT SALES CONTINUE TO FALL

In August 2023, U.S. retail sales revenue, including discretionary general merchandise and consumer packaged goods (CPG), remained unchanged compared to one year ago, and unit sales declined 2%, according to Circana (formerly IRI and The NPD Group). Unit sales for CPG edible and non-edible segments fell 1% and 3%, respectively.

Hampered by lackluster back-to-school sales, discretionary general merchandise spending declined 5% in dollar sales and 7% in unit sales compared to August 2022. For the most part, consumers are looking for discounts and deals to save money when shopping for food and beverages. However, they also will occasionally indulge themselves at local bakeries, butcher shops, and specialty stores.

Several retail categories are facing economic headwinds, according to the National Retail Federation. In September, building materials and garden supply store sales slipped 0.2% month over month (MOM) and dropped 6.5% year over year (YOY). Electronics and appliance store revenues declined 0.8% MOM and 2.5% YOY. Sporting goods store sales were unchanged MOM but decreased 1.6% YOY.

PLASTIC RESINS

Higher feedstock and monomer costs are putting upward pressure on plastic resin prices. Strong PE exports are propping up prices domestically. The war in the Middle East and fears of an expanded conflict are adding to the volatility of energy markets, which influence the price and supplies of plastic resins.

Here's a brief rundown of the current market conditions for various resins:



PET (Polyethylene Terephthalate):

Demand for food and beverage packaging has contributed to slightly higher PET prices.



HDPE/MDPE/LDPE (Polyethylene):

Increased raw material costs and inflation have lifted PE prices.



PVC (Polyvinyl Chloride):

Sufficient supplies and the typical seasonal slowdown in demand are keeping PVC prices flat.



PP (Polypropylene):

Low inventories, supply issues, and higher spot prices have increased PP prices.



PS (Polystyrene):

Higher raw material costs have raised PS prices.

Post-consumer recycled (PCR):

rHDPE pellet prices have declined since the summer amidst slowing demand and adequate supplies. Prices for post-consumer colorless and food-grade rPET flakes are mainly flat due to soft demand and sufficient domestic and imported supplies. Following declines in Q1 and Q2, prices for post-industrial PP resins have risen as buyers replenish their inventories. In Europe, rPET prices (food and colorless grades) continue to fall because of sluggish demand and increasing supplies of imported material.

GLASS

New proposed packaging rules in the EU to standardize glass packaging for better recycling and reuse have created concerns among manufacturers. While industry groups favor recycling, they worry the proposal risks infringing on the intellectual property rights of branded beverage bottles.

"The risk is that packaged products will start to look the same. Creative designs and iconic shapes will gradually disappear, and commercial value will be squandered because brands can no longer stand out from each other on the shelves," noted a statement from FEVE, the Federation of European manufacturers of glass packaging. "This will massively dent the economic value these products bring to Europe and beyond," added Adeline Farrelly, FEVE's Secretary General.

"Contrary to popular belief, bottle diversity as we know it today cannot be maintained under a mandated reuse system. Such a scheme will kill off designs but won't help to decarbonize the EU," declared Ulrich Adam, Director General of spiritsEUROPE, a trade association of spirits producers. "In other words, we are facing an irretrievable loss of bottle diversity and craftmanship in spirits, which will also negatively impact the 60% of bottles that go into export."

ALUMINUM

Commissioned by the Aluminum Association, a meta-analysis of more than a dozen life-cycle assessment studies comparing the carbon emissions of aluminum cans, glass bottles, and PET bottles found that aluminum cans generate significantly less carbon emissions than glass bottles and have a similar carbon footprint to PET.

Not addressed in the meta-analysis, aluminum beverage cans offer several environmental advantages over glass and PET, claims the Aluminum Association. The average aluminum beverage can made in the U.S. contains 73% recycled content, compared to 3% – 10% recycled content for the average PET bottle and 23% recycled content for the average glass bottle.



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PULP & PAPER

Demand and prices for corrugated products have fallen since the historic volume years of 2021 and 2022, driven by the pandemic-buying boom. Since January, the Producer Price Index for corrugated and solid fiber box manufacturing has declined by 16.5%.

Total U.S. boxboard production in the third quarter of 2023 decreased by 17% compared to Q3 2022, according to the American Forest & Paper Association (AF&PA). Total containerboard production in the third quarter of 2023 slipped by 1% compared to Q3 2022 but was down by 8% for the first nine months of the year compared to the same time frame last year, reports the AF&PA.





TINPLATE STEEL

The global tinplate steel market will grow at a 4.2% CAGR over the next 10 years, expanding from \$149.5 billion in 2023 to \$217 billion in 2032, according to a report from Research and Markets.

Tinplate steel's recyclable, hygienic, and protective attributes make it an attractive packaging material, particularly in the food industry. Economic growth and rising per capita income in developing nations, coupled with a growing demand for convenience products and prepared foods, should bolster market demand for steel cans and containers.

Although Berlin Packaging cannot control the price of raw materials, we do offer multiple value-added services and income-boosting solutions to help our customers Package More Profit®. Over the past few years, Berlin Packaging has added more than \$200 million in profit to our customers as a unique benefit of doing business with us.

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SECONDARY PACKAGING

Berlin Packaging specializes in primary and secondary packaging. We provide high-quality solutions for every market, including spirits, beauty, fragrance, and more. From ultra-premium display cases and luxury gift boxes to standard cartons and tubes, we have expertise across countless formats, materials, and price points to help brands succeed in the marketplace and grow their bottom line.

SECONDARY PACKAGING

Secondary packaging, which typically refers to packaging that houses the primary package containing the product, can take many forms, including paperboard cartons, flexible pouches, tubes, shrink sleeves/wraps, boxes, and even <u>carrier packs</u> and <u>overcaps for product dosing</u>.

Depending on the application, the secondary packaging can serve many functions, ranging from branding, product bundling (multi-packs, variety packs), and protection to seasonal or limited-time promotions and shelf-ready point-of-purchase displays.

Let's take a closer look at some of these roles and formats, with marketplace examples and innovative case studies.





PACKAGE BRANDING AND MARKETING

Since secondary packaging is often the first thing consumers see when browsing store shelves or online retailers, it should be top-of-mind for product branding and marketing. First impressions can make or break a buy. Impulse purchases account for more than a third of shopping decisions.

Secondary packaging is larger than the primary packaging, affording more "billboard" space to convey the brand story and product benefits through typography, signature colors, and imagery. It can expand the footprint of a small product, enhancing its shelf presence and stature. Many high-end fragrance and beauty products use secondary packaging to add cachet, facilitate shelf placement and stocking, and deter theft.

CASE STUDY: BLANTON'S BOURBON

For luxury or premium brands, secondary packaging can elevate the value of a collectible product and create a unique and memorable unboxing experience. Such is the case with Blanton's special-release bourbon and Bob Dylan's Bootleg Series whiskey.

When <u>Blanton's Bourbon</u> needed ultra-premium packaging for a special-edition European launch, the distillery turned to the cross-functional team at <u>Studio One Eleven®</u>, Berlin Packaging's in-house design and innovation center, to create a custom case and brand design inspired by the barrel charring process that gives the single-barrel bourbon its distinguished taste and color.

Studio industrial designers started by developing a unique carton that creates a special unboxing experience and acts as a display case for the glass bottle. Removing the carton's top reveals the brand's signature collectible horse & jockey stopper, standing proudly atop the case. Two carton panels swing open to showcase the beautiful iconic bottle sitting on a copper platform flanked by a large Blanton's brandmark.

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CASE STUDY: BOOTLEG SERIES BY HEAVEN'S DOOR

Named after Bob Dylan's famous album collection, the <u>Bootleg Series</u> by <u>Heaven's Door</u> celebrates the art and craft of whiskey and the artist's ingenuity. When the brand was ready to introduce a new annual limited-release product, they partnered with the team at Studio One Eleven® to bring this story of artistry and creativity to life.

Inspired by Bob Dylan's journals filled with his artwork, sketches, and music, Studio designers created a leather journal (secondary package) to showcase the Bootleg Series' unique whiskeys. Embossing and gold accents add authenticity and a sense of history and heritage. Opening the case reveals a ceramic bottle decorated with one of Bob Dylan's original paintings.

Each year's journal and bottle bear a unique custom design. The second edition features an ornate pattern inspired by ancient Gothic texts. An elaborate design with embossed gold foil on a deep teal background evokes an aged patina finish.

The third journal edition envelops a domestic whiskey distilled in Spanish barrels, inspiring the Studio team to design an intricate pattern suggestive of Spanish art and architecture. The rich, regal blue color with gold accents adds dimension and distinction.

PRODUCT BUNDLING, MULTI-PACKS, AND PROMOTIONS

Secondary packaging can hold multiple individual packages, creating economical value packs for club stores and variety packs with more product assortment. It can combine complementary products for specific usage occasions, such as shampoo & conditioner, facial & body creams, or sunscreen & sunburn relief products.

Pairing several products with a seasonal twist offers a unique promotional item or gift idea. For example, American Vintners enlisted Studio One Eleven® to ideate a range of lovable design themes for its Valentine's Day wine promotion collection. The selected <u>"Wine, Kisses & Valentine Wishes"</u> concept used bold typography and a romantic color palette of bright red, white, and black on a hexagonal carton that stands out in traditional retail as well as warehouse club stores.

In addition to crafting the outer carton, the Studio One Eleven® team named and designed the "Smooch" wine bottles found inside, complementing the secondary case motif with simple label graphics smacked with a Juscious kiss.







PRODUCT PROTECTION

Secondary packaging safeguards the primary package and product from damage, like scratches or scuffs, and tampering during distribution and storage. Many over-the-counter medications come in a primary package, such as a blister pack, and a secondary package, such as a paperboard carton, for added protection and to minimize adulteration.

The brands mentioned in this report are trademarks of their respective owners. Inclusion of these brands in this report is not meant to imply an association with or endorsement from the respective trademark owners.

Berlin Packaging's in-house design and innovation center, Studio One Eleven®, combines upfront market insights and branding strategy with structural design and back-end logistics to create world-class secondary packaging that wins at the shelf. Our strategists, designers, and engineers deliver everything from logo development to graphic design to complex custom innovation.

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OCEAN FREIGHT

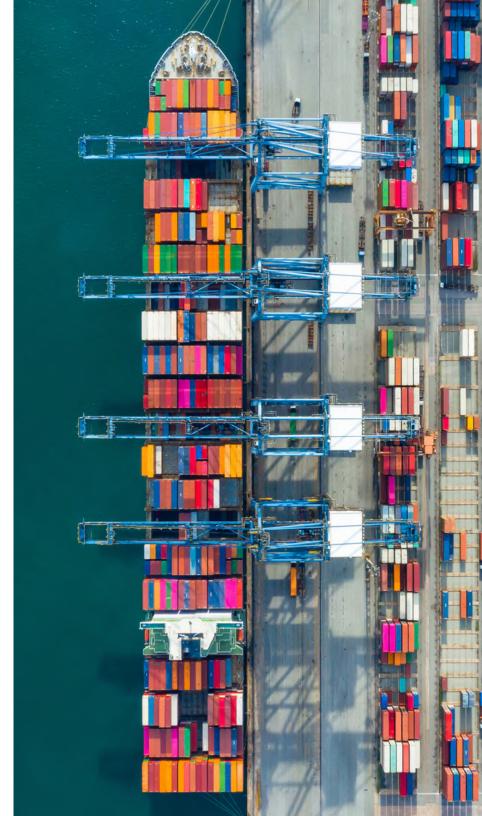
As volatility persists in many global trade lanes due to blank sailings and slow steaming, Berlin Packaging continues to proactively provide alternate routings and real-time visibility of the global freight market to help our customers minimize any disruptions to their supply chains. We partner with all major ocean alliances to help mitigate delays due to blank sailings from a single carrier.

As inbound container demand in North America has slowed this fall, ocean carriers in the trans-Pacific lanes from Asia/China to the West Coast and East Coast have increased their blank sailings to bring capacity in line with container volume.

While schedule reliability is better this year than the last two, it has fallen since May and stood at 63.2% in August — a 0.9% drop from July. On a year-over-year (YOY) basis, schedule reliability was 17 percentage points higher. Before the pandemic in 2019, schedule reliability averaged about 80%.

After falling in the first quarter of the year, the average delays for late vessel arrivals have increased since April and reached 4.67 days in August. Despite the increase in delays, late vessel arrivals have shaved 1.23 days over the same time last year.

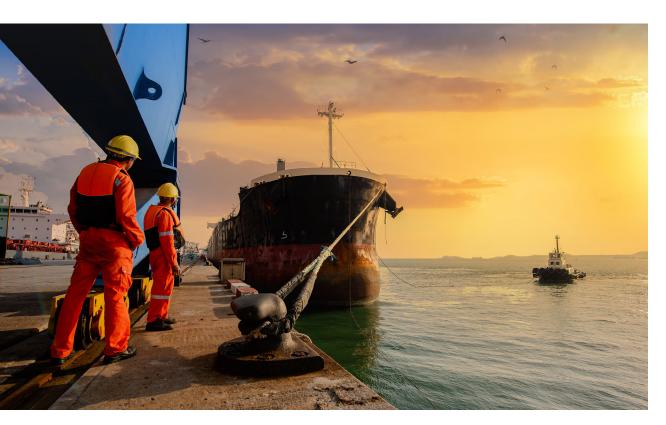
Blank sailings (canceled voyages or skipped ports) and slow steaming (intentionally slowing the speed of container ships) are generally the leading factors influencing schedule reliability and late vessel arrivals. Ocean carriers use these tactics to reduce shipping capacity and to maintain or elevate spot freight rates.



RETAIL INVENTORIES SUBSIDE

High merchandise inventories at major retailers slowed purchase orders and shrunk imports and ocean freight volumes since Q4 last year. But that inventory glut appears to be diminishing. In their Q2 financial filings, Walmart, Target, Dollar Tree, Nike, and other retailers reported YOY declines in inventories. Demand and inventories are now better aligned.

According to the National Retail Federation (NRF), inventory restocking may be right around the corner. Following 16 consecutive months of YOY declines in import volumes at major U.S. ports, the NRF predicts YOY increases in November (+7.5%), December (+8.9%), January (+4.2%), and February (+12.7%).



PORT ACTIVITY

With long-term labor agreements finalized this summer at West Coast ports in North America, these seaports are seeing import volumes return following months of dockworker unrest, temporary work stoppages, and fears of a strike. In September and October, the West Coast's share of U.S. imports averaged 58%, up from 54% in January.

In September, the Port of Long Beach handled 19% more imports, and the Port of Los Angeles unloaded 5% more imports than one year ago. "With a long-term dockworker contract in place, we're seeing more cargo shifting back to Los Angeles," said Port of Los Angeles Executive Director Gene Seroka. "The table is set to scale up as demand increases."

While the West Coast is experiencing import gains, it's a different story at Gulf and East Coast ports. The Port of Houston recorded a 10% YOY decline in container imports in September. Container volumes tumbled 28% YOY at the port of Savannah in August. In September, the Port of New Jersey/ New York (the East Coast's largest port) posted a 20% YOY drop in import volumes, following an 18% YOY decline in August.

Contract talks between management and the dockworkers' union at the Port of Montreal, Canada's second-largest container port, appear to be stalled and headed for federal mediation. The port's labor agreement ended in 2018, and an interim agreement mandated by the government ended a four-day strike in 2021. That temporary agreement expires in January 2024.

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In late October, the Panama Canal — a key passageway for container ships from Asia to the Gulf and East Coasts — announced further restrictions on ship transits due to an ongoing drought and low water levels. Over the next several months, the number of booking slots will gradually drop from 25 vessels/day in November to 18 vessels/day in February. For the most part, container ships have been unaffected by the restrictions.

Due to vessel booking limits in the Panama Canal, two major trans-Pacific ocean carriers have added the Port of Lázaro Cárdenas (Mexico's second busiest container port) to their route schedules from Asia. The southern Mexican port (about 200 miles north of Acapulco) offers an intermodal gateway for cargo to the central U.S.

As a Customs Trade Partnership Against Terrorism (CTPAT) certified importer, Berlin Packaging and our customers reap multiple benefits, such as reductions in customs freight examinations, "front of the line" status during inspections/ exams, shorter wait times at the border, and more.



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DOMESTIC TRANSPORT

With a dedicated team of logistics specialists, Berlin Packaging has expertise in all modes of transportation — truckload, LTL, intermodal, and parcel — to ensure our customers receive competitive rates.

Here's a snapshot of transportation news, costs, and market dynamics in North America.

- In September, freight shipments rose 1.7% month over month (MOM) but fell 6.3% year over year (YOY), according to data from Cass Transportation Systems. Expenditures slipped 0.2% MOM and 25% YOY.
- Retail imports fell YOY in October and September but are expected to rise monthly from November through February.
- Consumer spending powered a 4.9% U.S. GDP increase in the third quarter.
- Diesel fuel prices and surcharges have risen steadily since August. However, diesel prices in late October were 80 cents per gallon less than one year ago.

CONSUMER SPENDING DRIVES Q3 GDP UPSURGE

U.S. gross domestic product (GDP) jumped 4.9% in the third quarter, fueled by robust consumer spending on goods (prescription drugs, recreational products, and automobiles) and services (dining out, recreation, and travel). It was the highest quarter of growth since Q4 2021.

A strong job market plus plentiful savings continue to propel the economy despite inflation and higher interest rates. Economists expect a slowdown in consumer spending in the fourth quarter as student loan payments resume and growing credit card balances eat into savings. Real disposable income decreased 1% in Q3, and personal savings dropped 25% compared to Q2.



TRUCKLOAD RATES & SHIPMENTS

Since the Labor Day Holiday, line-haul costs per mile for the dry van spot market have declined slightly. In mid-October, the dry van spot rate per mile averaged \$1.82, nearly a 15% drop from one year ago. The weekly count of dry van spot shipments rose almost 2% compared to one year ago, a rare occurrence in 2023. Spot rates are 42 cents less per mile than contracted rates.

Van load-to-truck ratios, which serve as a measure of both demand (the number of loads) and capacity (the number of available trucks to carry those loads), have hovered below 3.0 since early September. The ratio was 3.54 in September 2022. Smaller ratios usually equate to lower shipping costs.

While lower costs benefit shippers, the current downturn in trucking volumes and truckload rates are eroding profits and forcing some carriers to close their doors. These challenging market conditions underpin the risk of insufficient capacity when loads increase, creating a roller-coaster cycle of rate prices and economic chaos.

RETAIL IMPORTS FALL

Retail import volumes at major U.S. container ports are expected to drop 4.3% in September compared to one year ago, reports the National Retail Federation (NRF), following a 13.5% YOY slide in August. NRF predicts import volumes will decline 3% YOY in October but will show positive comparisons in November (+7.5%), December (+8.9%), January (+4.2%), and February (+12.7%).

Retail sales grew in September, but YOY gains are slowing, reports the NRF. In September, retail sales increased 0.5% from August and rose 2.2% YOY, while August sales inched 0.2% month over month and climbed 3.6% YOY. "As we gear up for the holiday season, we expect moderate growth to continue as consumers focus on value and household priorities," said Matthew Shay, NRF CEO.

Average price for diesel fuel (per gallon)

\$5.34October 2022

\$3.76 July 2023 \$4.54

October 2023

DIESEL FUEL PRICES RISE

The war in the Middle East has brought further uncertainty to energy markets, putting upward pressure on crude oil prices. In late October, the average price for diesel fuel in the U.S. was \$4.54 per gallon — an \$0.80 drop from one year ago but a \$0.78 increase since early July.

LTL FALLOUT FROM YELLOW'S DEMISE

Yellow's closure this past summer continues to reshuffle the less-than-truckload (LTL) market. On average, LTL prices have risen. With Yellow's prices lower than many competitors, some of its volume has moved to more costly carriers, resulting in higher line-haul charges overall. Another reason for higher LTL rates is the Q3 increase in diesel fuel surcharges.

About 35% of shippers who had worked previously with Yellow are still in the hunt for another carrier for their LTL shipments, according to a survey from Morgan Stanley. These shippers are looking for better pricing and service as well as greater network alignment from carriers.

FEDEX AND UPS RAISE RATES 5.9% FOR 2024

Parcel carriers FedEx and UPS have announced general rate increases (GRIs) of 5.9% for 2024. While the GRIs are lower than last year, they still tie for the second-highest rate increase in the past 10 years. Along with the GRIs, customers can expect additional handling fees and higher surcharges.

E-COMMERCE SALES ROSE 2% IN Q2

According to recent government data, U.S. retail e-commerce sales reached \$277.6 billion in the second quarter of this year — an increase of 2.1% from the first quarter and a 7.5% jump from the second quarter of 2022. Retail e-commerce sales in Q2 accounted for 15.4% of total retail sales.

Berlin Packaging maintains strong and enduring partnerships with local carriers, resulting in best-in-class service and competitive costs that benefit our customers.



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We Believe Anything Is Possible[®]

With over 100 years in the packaging industry, more than 2,000 packaging professionals and a global network of suppliers and warehouses, we offer 50,000+ SKUs of plastic, glass, and metal containers, closures, and dispensing systems across all markets for customers just like you.

Our Business Model

Berlin Packaging is not a distributor. We're not a manufacturer. And we're not a packaging consultancy. Instead, we're all three at the same time. We are best-of-breed amongst manufacturing, distribution, and value-added service providers. We are the world's largest **Hybrid Packaging Supplier**.



Specialty Service Divisions

We offer value-added services specialized to best address all your packaging needs.

- · Branding Strategy & Design
- Quality Advocacy
- Global Capabilities

- Warehousing & Logistics
- Financing & Consulting
- Sustainability Solutions