ProcurementIQ

CustomIQ Research

Inflation & Commodity Trends

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What's in this Report

This report contains information on thirteen primary commodities. Information provided for these commodities includes forecast growth rates, the impact of these primary commodities on secondary commodities, substitutes for primary commodities, as well as upstream and downstream supply chain analysis for each primary commodity.

Contents

Executive Summary

- Although persistent inflation in the United States has shown signs of easing, the Federal Reserve has decided to maintain current interest rates at 5.3%. As of July, inflation has fallen from its peak of 5.6% seen in June 2022 to 2.6% today.
    - High interest rates in the short term will continue to impact commodities, particularly over the six-month horizon.
    - It is unclear whether rate cuts will occur by the end of 2024. Federal Reserve Chairman Jerome Powell has stated that inflation should reach 2.0% or below before interest rates are adjusted to discourage persistent inflation.
    - The US economy has remained strong amidst tightened rates and inflation. GDP continues to grow, while the job market filled 272,000 positions in May 2024.
    - These strong economic indicators have further encouraged tightened rates to persist.
- As global markets continue to struggle amid muted economic performance, metals demand is projected to remain weak for the duration of 2024. However, supply constraints originating from trade wars and geopolitical conflicts are expected to outweigh weak demand, thus pressuring most metal prices upward for at least the next year. Steel prices will be exempt from this trend, as heavily weakened demand from China's construction sector has added significant downward pressure to prices.
    - China continues to maintain an essential role in metals markets. For example, Chinese demand is expected to lift aluminum prices as the country shifts its focus from heavy construction investment to manufacturing and renewables in the face of the turmoil in the real estate sector. In addition, constrained capacity growth and occasional power disruptions in China's large-scale industries will continue to cause supply chain challenges, pressuring prices upward.
- Food prices in the US are expected to continue increasing, but at a slower rate, as supply chain issues become resolved. According to the US Department of Agriculture, April 2024 marked the first month in over two years of food price declines as prices declined 0.2%.
    - Food prices will continue to experience high volatility due to persistent supply chain challenges.
- Both crude oil and natural gas are expected to experience volatility over the next three years, following different trends. Crude oil prices have experienced short-term growth due to voluntary production cuts from OPEC+ countries. Oil prices, however, are predicted to decline in the long run due to an anticipated increase in global supply and large inventories tempering the effect of rising demand. Conversely, the natural gas market is poised to see an uptick in prices in the near future, driven by greater global demand and expanded exports; however, this trend reverses in the later stages as demand stabilization and normalization of global supply chains exert downward pressure on prices.

- High interest rates and inflation will have mixed impacts on secondary commodities.
    - For example, rising input costs are prompting suppliers to increase their prices to maintain profitability. This trend is demonstrated in the consumer paper market, where many suppliers have raised prices to protect profits due to weakened demand from the retail sector.
    - However, higher interest rates and inflation are negatively impacting the demand for primary and secondary commodities, subsequently exerting downward pressure on prices.
    - While the availability of secondary commodities is rising, the current economic volatility continues to create disruptions and uncertainties in the market, making future price trajectories unpredictable.

Commodity Analysis

1. Aluminum

Forecast CAGRs:

- 6 Month: 2.7%
- 1 Year: 5.7%
- 2 Year: 4.2%
- 3 Year: 3.7%

Analysis: Aluminum prices are expected to continue increasing throughout the following three-year period as rebounding demand for the metal contributes to continued price growth. Prices are expected to grow steadily compared to previous years when significant volatility occurred in the price of metals such as aluminum. Strong demand from the Chinese manufacturing industry and rapid growth in the electric vehicle (EV) market will continue to support price growth in the next three years. However, growing global production, specifically in Europe and China, is forecast to limit price growth and contribute to lower volatility within the next three years.

Secondary Commodities:

- Cameras/Cell Phones/Computers/Copiers
    - Aluminum is used in printed circuit boards, computer chips, and other structural or body technology components, such as cameras, cell phones, and computers. As aluminum prices stabilize, so may product prices.
- Canned Goods
    - Canned goods and beverage manufacturers will see input costs increase marginally over the next three years as aluminum prices slowly climb due to greater demand and rising overhead costs.
- Vehicle/Vehicle Parts
    - Vehicle and auto part manufacturers expect increased manufacturing capabilities due to greater aluminum production.
    - Aluminum is frequently used in the production of EVs, as its lightweight characteristics counteract the high weight of vehicle batteries.

1. Aluminum

Substitute Commodities:

- Magnesium Alloys

Upstream Supply Chain:

- Alumina Producers & Processors
  - Bauxite Miners
- Mining Equipment Manufacturers

Analysis: The upstream supply chain for aluminum consists of raw material suppliers that mine bauxite, process it into alumina, and deliver it to aluminum manufacturers. The supply of these materials may begin to decrease in quantity in the following year due to Chinese emissions regulations, contributing to upward pressure on prices.

Downstream Supply Chain:

- Car & Automobile Manufacturers
- Metal Can & Container Manufacturers

Analysis: The downstream supply chain for aluminum comprises final products and solutions engineered and built from aluminum. Major downstream players include aircraft and automobile part and equipment manufacturers, along with canned goods and beverage suppliers. Aluminum demand is expected to grow as inflation cools and global production increases in 2024, contributing to upward pressure on market prices.

2. Chlorine

Forecast CAGRS:

- 6 Month: 2.6%
- 1 Year: 3.3%
- 2 Year: 2.7%
- 3 Year: 2.4%

Analysis: The price of chlorine is expected to recover from extreme surges and increase at a more stable rate compared to the previous three-year period. Significant supply shortages occurred during the previous three years due to a major fire at a large chlorine production facility in Louisiana. Additionally, severe winter storms in the Southern United States in Q4 2023 added significant price growth for the commodity due to supply constraints. Production has since recovered globally, mitigating the negative impacts of supply shortages from these events. As a result, chlorine prices are expected to stabilize as supply chain issues resolve, more viable alternatives to chlorine emerge, and production returns to average levels that can meet the demand for the product. Chlorine demand is expected to further stabilize as pool construction proceeds on a normal schedule without significant backlogs or waitlists, which have been contributing to extreme volatility in the demand for chlorine products.

Secondary Commodities:

- Pharmaceutical Products

2. Chlorine

- As chlorine shortages begin to resolve, pharmaceutical products and medicines that use chlorine as components are expected to continue increasing in price at less volatile rates.

Substitute Commodities:

- Bromine

Upstream Supply Chain:

- Chemical Product Manufacturers
  - Inorganic Chemical Manufacturers
- Mineral & Phosphate Miners
  - Mining Equipment Manufacturers

Analysis: The primary upstream supply chain risk for chlorine stems mainly from the ability to meet demand. A significant disruption in the supply chain occurred from the fire at a Louisiana chlorine plant in 2021, which has continued to affect the supply of chlorine into 2024 However, production has begun to resume, and supply issues are expected to be resolved as 2024 continues.

Downstream Supply Chain:

- Pharmaceutical Manufacturers
- Chemical Product Wholesalers
- Facility Maintenance Providers

Analysis: Demand from downstream suppliers is steady on average, as most buyers in the market require the product at a regular, predictable pace for operations to continue.

3. Food Products

Forecast CAGRS:

- 6 Month: 3.1%
- 1 Year: 2.0%
- 2 Year: 1.8%
- 3 Year: 1.2%

Analysis: The price of food products is expected to increase in the next 6 months and remain elevated throughout the forecast period as inflationary pressures push prices higher. However, food price growth is forecast to occur at a much slower rate compared to the recent three-year period, indicating that supply chain issues have begun stabilizing. Future price increases are expected to occur due to changing preferences and continued supply issues with certain products like meat, poultry, and fish. Some foods, like eggs, fresh vegetables, and processed foods, have declined slightly in price within the last year. Overall, food products are expected to face continued price increases throughout the following three-year period.

Secondary Commodities:

- Animal Feed/Products

3. Food Products

- Food products and grain are major components of the typical animal feed used by farmers. As animal feed prices rise, farmers raise the prices of these animal products to cover rising costs, thereby contributing to upward pressure on various food prices, including beef and dairy. The projected increase in food prices in the forecast period is expected to contribute to increases in animal feed and other related products.

Substitute Commodities:

- Barley & Other Grains
- Rice

Upstream Supply Chain:

- Fertilizer Manufacturers
  - Chemical Product Manufacturers
- Farm Product Storage & Warehousing Providers
- Tractors & Agricultural Machinery Manufacturers
  - Steel Manufacturers
- Water Supply & Irrigation Providers
  - Pipe & Tube Manufacturers

Analysis: Major supply chain disruptions can result from fluctuations in the price or availability of fertilizer. Stabilization in fertilizer prices over the next three years will increase crop production, increasing the overall supply of food prices, which will help mitigate other demand forces pushing prices upward.

Downstream Supply Chain:

- Animal Feed Producers
- Food & Grocery Stores
- Fruit & Vegetable Markets

Analysis: Downstream demand is steady; however, many substitutes are available to consumers and farmers alike, reducing the impact of demand shocks in the market.

4. Crude Oil

Forecast CAGRS:

- 6 Month: 3.6%
- 1 Year: 1.1%
- 2 Year: -1.4%
- 3 Year: -2.7%

Analysis: The price of crude oil is currently experiencing high volatility. In a recent OPEC+ meeting, prominent oil-producing countries like Saudi Arabia, Russia, and Iraq agreed to voluntary crude oil production cuts. This drop in production is forecast to support crude oil price growth within the next year. After this period, ongoing supply growth from oil producers outside of OPEC+ (e.g., United States,

4. Crude Oil

Canada, & Brazil) will support oil inventory growth globally. This trend is forecast to reverse the increasing price trend, thus supporting price declines for crude oil in the later period.

Secondary Commodities:

- Diesel/Gasoline
  - In June, gasoline and diesel prices currently stand at $3.491 and $3.769 per gallon, respectively, declining from previous data listed from April.
- Grounds Maintenance Equipment/Heavy Equipment
  - Many types of equipment rely on lubricating oils to ensure machines' longevity. Because these products are refined from crude oil, owners of these machines can expect significant volatility in future costs associated with maintaining their equipment.
- Tires/Auto Parts
  - Oil is a primary component in tires and in manufacturing additional auto parts. Both manufacturers and buyers of tires can expect price relief as oil prices are expected to begin declining in the future periods.
- Industrial Consumables:
  - Industrial consumables, including motor and lubricating oils, paint, and plastic products, depend heavily on the market for crude oil, as many of these products are oil derivatives. As volatile conditions persist in the crude oil market, the supply and prices of these products are expected to shift quickly. However, price declines are expected to occur in the following period as global oil markets face relief.

Substitute Commodities: N/A

Upstream Supply Chain:

- Mining, Oil & Gas Machinery Manufacturing
  - Steel Manufacturers
- Industrial Supplies Wholesalers
  - Power Tools & Other General Purpose Machinery Manufacturers
  - Pump & Compressor Manufacturers
- Metal Pipe & Tube Manufacturers
  - Steel Manufacturers
  - Iron Manufacturers

Analysis: Significant supply chain risk exists in the market for crude oil, as the market depends heavily on other risky commodities. While international sanctions on Russia have contributed to instability in the supply chain, tariffs on global steel producers can also cause disturbances, as steel and iron are critical components of most machinery used in the oil-extracting process. For example, Section 232 implemented a 25.0% tariff on steel which contributed to significant negative impacts since most steel pipes utilized in the domestic oil and gas industries are imported. However, as global supply chains have stabilized the negative impacts have begun to be mitigated in the market.

Downstream Supply Chain:

- Petroleum Refineries
- Gasoline & Petroleum Stations
- Petrochemical Manufacturers

4. Crude Oil

- Rubber Product Manufacturers
- Plastics & Related Products Manufacturers

Analysis: Downstream demand shocks in the market can contribute to significant strain on oil markets. With inventories currently low due to OPEC+ production cuts, downstream supply chain issues are being exacerbated.

5. Lumber

Forecast CAGRS:

- 6 Month: -4.6%
- 1 Year: -1.4%
- 2 Year: 2.8%
- 3 Year: 4.1%

Analysis: The price of lumber is expected to continue its sharp decline since April 2024 in the near future. High mortgage rates have discouraged the number of new homebuyers, significantly decreasing demand for new residential construction. As the residential construction industry is one of the largest purchasers of lumber, prices for the commodity have declined. In anticipation of prolonged reduced demand, lumber producers may scale back production to avoid oversupply, adding further price volatility to the market. However, interest rate cuts within the three-year period would increase demand for new homes and add upward pressure to lumber prices.

Secondary Commodities:

- Toilet Paper
  - As lumber prices decline, personal paper products that depend on wood pulp, such as toilet paper, are forecast to decrease in price through the first half of the forecast period.

Substitute Commodities:

- Metals/Steel
- Concrete/Asphalt
- Plastics

Upstream Supply Chain:

- Tools & Hardware Wholesalers
  - Tools & Hardware Manufacturers

Analysis: Upstream supply chain risk primarily stems from the availability of wood and lumber to be cut and sold. Weather events or wildfires can reduce the overall stock of lumber and contribute to higher prices.

Downstream Supply Chain:

- Hardware Stores
- Commercial Building Construction
- Residential Building Construction
- Municipal Building Construction

5. Lumber

- Lumber & Building Material Stores

Analysis: The easing of extreme interest rate hikes and the return of construction activity will elevate demand for lumber, placing upward pressure on prices throughout the forecast period. With less inflation, homeowners will be incentivized to spend on home repair and remodeling, increasing demand for lumber and contributing to higher prices. However, high interest rates are forecast to persist for at least the next year.

6. Natural Gas

Forecast CAGRS:

- 6 Month: 11.4%
- 1 Year: 14.9%
- 2 Year: 12.4%
- 3 Year: 6.1%

Analysis: Natural gas prices are highly volatile and difficult to predict. Prices are expected to grow over the forecast period, with surges expected in the following year due to higher global demand, rising exports, and seasonality from the US energy industry. Prices are expected to continue increasing in the later stages of the forecast period as global demand continues to grow. Natural gas is often used when transitioning from coal to renewable energy, as it is a comparatively cleaner fossil fuel in terms of carbon emissions. This trend will add demand for natural gas compared to coal, thus encouraging price growth for the commodity.

Secondary Commodities:

- Equipment
  - Equipment, like generators, depends on natural gas to operate and generate electricity. As a result, generator owners, including extensive facilities, universities, and other buildings, can expect operating costs to increase throughout the forecast period, with natural gas prices projected to increase.

Substitute Commodities:

- Propane
- Biofuel
- Coal

Upstream Supply Chain:

- Mining, Oil & Gas Machinery Manufacturing
  - Steel Manufacturers
- Industrial Supplies Wholesalers
  - Power Tools & Other General Purpose Machinery Manufacturers
  - Pump & Compressor Manufacturers
- Metal Pipe & Tube Manufacturers
  - Steel Manufacturers
  - Iron Manufacturers

6. Natural Gas

Analysis: Supply chain disruptions stem from low gas yields at drilling sites and fluctuations in markets for steel and iron, as these metals make up a significant portion of the machinery required to drill for natural gas.

Downstream Supply Chain:

- Coal & Natural Gas Power Providers
- Fuel Dealers
- Fertilizer Manufacturers

Analysis: Downstream demand for natural gas is steady. However, shifts toward green power have made demand shocks more likely in the forecast period. Although some vendors have shifted to clean energy generation, impacts on natural gas price growth are expected to be limited as the commodity is still a primary energy input while also being a cleaner fuel source than coal.

7. Plastic

Forecast CAGRS:

- 6 Month: 4.8%
- 1 Year: 3.4%
- 2 Year: 1.6%
- 3 Year: 0.9%

Analysis: Propane, a derivative of crude oil, is used to make ethylene and propylene, which are the foundational building blocks of plastic manufacturing. Therefore, plastic prices will increase alongside rising crude oil prices in the short term. Demand for plastic will likely increase in 2024 and 2025 as improving global economic conditions increase demand from end-use markets for this commodity, like packaging. Increased consumer spending in the e-commerce sector has contributed to this growing demand for packaging, which has added upward pressure to plastic prices. However, lower oil prices later in the forecast period will cause input costs for plastics manufacturers to decline, restricting price growth beginning in late 2025 and 2026.

Secondary Commodities:

- Medical Equipment
    - Plastic is a key input for medical equipment used in vials, beakers, implants, and medical instruments. Input costs for plastic medical equipment are projected to increase in the short term, while plastic materials offer a more cost-effective solution to alternatives such as metals, glass, and ceramics.
- Disposables and Polystyrene Foam
    - Disposable bottles and bags rely on plastic, so increases in plastic prices directly impact prices for these goods. Polystyrene foam is also a plastic-based product used in packaging and automobile parts.
- PVC Pipes
    - PVC pipes are plastic-based products often used for sewage pipes and water mains for irrigation.

7. Plastic

- Consumer Electronics
    - Smartphones and other consumer electronics use a wide variety of plastic products, including Polycarbonate (PC), Acrylonitrile Butadiene Styrene (ABS), and Polymethyl Methacrylate (PMMA). These plastics are used for display frames, haptic feedback cushioning, and mounting frames, among other purposes.

Substitute Commodities:

- Paper & Paperboard
- Bioplastics
- Glass
- Platinum Silicone
- Ceramics

Upstream Supply Chain:

- Petrochemical Manufacturers
    - Petroleum Refiners
- Industrial Machinery & Equipment Wholesalers
    - Steel Manufacturers
    - Iron Manufacturers
- Inorganic & Organic Chemical Manufacturers
    - Steel Manufacturers
- Resin Producers
    - Coal Miners

Analysis: Petrochemicals, such as ethylene and propylene, are key inputs for plastic manufacturing and are produced from propane and butane, both of which derive from crude oil refining. Thus, increases in oil prices will pressure plastics prices upward.

Downstream Supply Chain:

- Plastic Bottle Manufacturers
- Plastic Film, Sheet & Bag Manufacturers
- Plastic Pipe & Part Manufacturers
- Urethane Foam Manufacturers
- Plastic Product Wholesalers
- Plastic Toys
- Adhesive Manufacturers

Analysis: Increasing costs in resin and oil, thus plastic, will push prices higher for plastic-based products, including plastic containers, bags, and bottles. The price of polyolefins is also rising, which impacts various products, including clothing, carpet, and roofing materials.

8. Semiconductors

Forecast CAGRS:

8. Semiconductors

- 6 Month: 3.8%
- 1 Year: 2.1%
- 2 Year: 0.8%
- 3 Year: -0.6%

Analysis: Forecasts for semiconductors continue to fluctuate significantly. Currently, the demand for semiconductors is strong due to the high demand for memory chips and cutting-edge processors. According to Deloitte, memory chips are the largest contributor to overall semiconductor demand, as memory chip sales have historically fluctuated significantly in response to economic conditions. China's recent advancements in manufacturing capacity have triggered strategic price reductions in wafer foundries, pushing semiconductor chip prices lower across the industry. Additionally, chip giant Taiwan Semiconductor Manufacturing Co. (TSMC) has begun construction on three fabs in Phoenix, Arizona, with the first beginning production sometime in 2025. Growing investment into US semiconductor manufacturing encouraged by the US CHIPS Act is expected to ease upward price pressure in the forecast period. Risks to the upside for this market include the April 2024 earthquake in Taiwan, which has temporarily shut down two major chip factories (Taiwan Semiconductor Manufacturing Co. and United Microelectronics Corp.). TSMC reported a loss of nearly $100 million due to halted production resulting from the earthquake, demonstrating the risk of natural disasters for semiconductor production. Increased AI adoption is projected to increase demand for advanced or specialized semiconductors, also known as cutting-edge chips.

Secondary Commodities:

- Cell Phones
  - The semiconductor market for mobile phones is projected to reverse and increase. S&P Global predicts that there will be a recovery in 2024 and 2025, rebounding after sharp declines in 2022 and 2023.
- Computers, Copiers, Web Cameras, and Smartboards
  - The demand for computers has begun increasing after the market's decline in 2023, with laptop shipments growing globally. These factors will increase demand for semiconductors, pressuring prices upward.
- Vehicles
  - EV demand has increased significantly in the last three years and is expected to continue increasing through 2024 and beyond. This growth has been attributed to widespread net-zero targets and growing consumer confidence in EVs in major regions like Europe, the United States, and China. In Q1 2024, new EV sales grew by over 25.0% globally, signaling strong consumer demand for these vehicles. Increased demand for electric vehicles will add upward demand pressure to semiconductors, which are integral for internal electronic systems within new automobiles.

Substitute Commodities: N/A

Upstream Supply Chain:

- Semiconductor Machinery manufacturers
  - Steel Manufacturers
  - Iron Manufacturers

8. Semiconductors

  - Aluminum Manufacturers
- Copper Rolling, Drawing & Extruding Suppliers
  - Copper Miners
- Chemical Product Manufacturers
  - Silicon Suppliers

Analysis: While silicon production slowed down during the past three-year period, silicon wafer shipments are still expected to increase in 2024 as they become increasingly used for new applications like AI and 5G. This will continue to increase demand for semiconductors, encouraging price growth in this market.

Downstream Supply Chain:

- Consumer Electronics Stores
- Computer Manufacturers
- Wireless Telecommunication Manufacturers
- Automobile Electronics Manufacturers

Analysis: As demand for consumer electronics like computers and smartphones is forecast to grow in 2024 and 2025, this could lead to widespread price growth for these products. Additionally, industry experts have stated that many corporations are entering a 'refresh' cycle, where aging hardware like computers must be replaced with new technology. Technology upgrades are mainly encouraged by Microsoft ending its support of the Windows 10 operating system by 2025. Global computer and laptop shipments have already begun increasing in 2024, signaling upward price growth due to high demand in the near period.

9. Steel

Forecast CAGRS:

- 6 Month: -4.8%
- 1 Year: -5.9%
- 2 Year: -7.6%
- 3 Year: -7.1%

Analysis: Global steel prices are projected to decline in 2024 and 2025, primarily due to weakened demand from manufacturing sectors in advanced markets. Declining construction activity in China's property sector due to liquidity and debt problems currently affecting the country is further reducing demand. As one of the largest global purchasers of steel, falling construction activity in China has added downward pressure to steel prices. Adverse financial conditions amid high interest rates and inflation in developed countries are also expected to continue to reduce steel demand. Additionally, the Fitch Ratings is projecting iron ore prices to decrease. As a key input of steel, falling iron ore prices will add further downward pressure to steel prices as long as they persist.

Secondary Commodities:

- Grounds Maintenance Equipment

9. Steel

    - Ground maintenance equipment, such as shears, is made of hardened carbon or chromium steel.
- Heavy Equipment
    - Steel is the backbone for scaffolding, cranes, bulldozers, and other heavy equipment.
- Industrial MRO Supplies
    - Declining steel prices have placed downward pressure on repair tools and safety equipment prices.
- Medical Equipment
    - Medical equipment includes a wide range of steel products, such as medical carts, wheelchairs, hospital beds, IV stands, surgical tools, medical syringes and needles, surgical screws, and plates, among a host of other steel-based products.
- Vehicle & Vehicle Parts
    - Steel is a key component in vehicles and vehicle parts. As the supply of steel increases, the production and supply of vehicles and vehicle parts will also increase.

Substitute Commodities:

- Aluminum
- Wood
- Stone
- Concrete
- Plastic

Upstream Supply Chain:

- Iron Ore Miners
- Copper, Nickel, Lead & Zinc Miners
- Industrial Machinery & Equipment Manufacturers
    - Steel Manufacturers
- Utilities & Energy Providers
    - Coal Miners

Analysis: Steel production primarily relies on coal as the main energy source. This is especially the case in the blast furnace method, which is the most common method globally. The decline in coal and energy prices, alongside reduced demand from machinery manufacturers and construction, will continue to pressure steel prices downward. High inflation and interest rates will exacerbate price declines in the short term, with long-term price movements dependent on the shifting monetary policies of advanced economies.

Downstream Supply Chain:

- Constructors
- Metal Pipe & Tube Manufacturers
- Car & Automobile Manufacturers
- Steel Rolling & Drawers
- Ferrous Metal Foundry Products

9. Steel

Analysis: Downstream demand for steel includes products and services that rely on steel and steel-based products as a key input. This includes industrial and construction markets that use steel in heavy equipment and structures, such as shipbuilding, oil and gas refining, and vehicle production.

10. Consumer Paper Products

Forecast CAGRS:
- 6 Month: 2.6%
- 1 Year: 3.1%
- 2 Year: 1.1%
- 3 Year: 0.7%

Analysis: The retail sector specifically has experienced a strong decline in paper demand due to low consumer spending activity, which has hindered the financial health of paper suppliers. To address this, paper prices have recently begun rising as major producers have raised prices to shield profit margins from the weakening demand. Widespread strikes in Finland (a major paper-producing country) have also added upward pressure to paper prices in recent months. In the later stages of the period, consumer paper prices are expected to continue to grow in tandem with rising wood pulp prices.

Secondary Commodities: N/A

Substitute Commodities:
- Paper alternatives (Recycled materials, bamboo, etc.)

Upstream Supply Chain:
- Paper Mills
- Wood Pulp Mills

Analysis: Upstream supply chain risk depends entirely on the stability of the lumber and wood pulp markets, as all consumer paper products will be produced directly from these key inputs.

Downstream Supply Chain:
- Office Stationery Wholesalers
- Printing Suppliers
- Paper and Paper Product Wholesalers

Analysis: Consumer paper products typically go to printing providers, office supply wholesalers, and other paper and paper wholesalers who supply products to office buildings, hotels, and other large commercial spaces.

11. XaaS

Forecast CAGRS:
- 6 Month: 4.1%

11. XaaS

- 1 Year: 3.8%
- 2 Year: 3.2%
- 3 Year: 2.6%

Analysis: Software-as-a-Service and Infrastructure-as-a-Service prices are projected to increase in the short term due to ongoing inflation. Based on industry studies, SaaS prices have outpaced inflation rates over the past few years to the detriment of buyers. Over the next three-year period, a competitive labor market will continue to prompt suppliers to raise wages to attract new workers, while an increasing commitment from top suppliers to meet environmental sustainability objectives will also increase costs, which will be passed on to buyers. However, the entry of new competitors to the SaaS market will increase price competition, thus adding limiting price growth.

Substitute Commodities:

- On-Premises Software
- In-House IT
- Open-Source Software

Upstream Supply Chain:

- Software Engineers & Developers
- Internet Service Providers
- Energy Suppliers
- Third-Party Software Suppliers
- IT Hardware Manufacturers

Analysis: As the costs of servers, storage, and networking hardware rise due to inflation, supply-chain disruptions, and higher manufacturing costs, service providers must shoulder these costs and pass them on to clients. The tight labor market, specifically in the tech sector, will continue to push XaaS prices higher.

Downstream Supply Chain:

- Businesses & Corporate Entities
- Government Agencies
- Tech Start-Ups
- Healthcare Institutions
- Education Institutions
- Retailers
- E-Commerce Platforms

Analysis: Demand for XaaS will increase due to its scalability and cost-effectiveness, ultimately supporting price increases in this market.

12. Vehicles

Passenger Vehicles

Forecast CAGRS:

- 6 Month: 0.8%
- 1 Year: 1.2%
- 2 Year: 1.7%
- 3 Year: 1.5%

Analysis: Passenger vehicles have experienced rapid price growth in the last three years, as supply chain issues and high interest rates reduced both supply and demand for new cars. However, this trend has shown signs of slowing, as prices have fallen 2.0% from the market peak in December 2022. Dealer inventories have become plentiful while purchasing incentives have also grown in frequency. As interest rates remain elevated, however, consumers will continue to be deterred from financing car purchases. Nonetheless, gradually improving consumer confidence throughout the forecast period and progressive interest rate cuts in 2025 will support demand growth for passenger vehicles.

Fleet Vehicles

Forecast CAGRS:

- 6 Month: 1.4%
- 1 Year: 1.8%
- 2 Year: 2.4%
- 3 Year: 1.9%

Analysis: Fleet vehicles are expected to continue increasing in price over the following three years, moving in line with expectations from passenger vehicles. Fleet vehicles are expected to be impacted less by oversupply as demand remains elevated and continues to meet the supply set by suppliers. A revival in the lease and rental sector drives the forecasted increase in demand for fleet vehicles in 2024. The surge in final leg delivery operations, especially by businesses like Amazon, is expected to accentuate this upward trend. For example, Amazon recently created a $1.0 billion investment fund targeting final-leg technology firms. The company has also pledged to increase the number of fully electric Rivian delivery vehicles, which will continue to strengthen demand and price growth for fleet vehicles.

Secondary Commodities:

- Gasoline/Diesel:
  - In June, gasoline and diesel prices stood at $3.491 and $3.769 per gallon, respectively, declining from previous data listed from April.
- Tires
  - Tires and tire sales depend significantly on passenger vehicle and car sales. As car prices increase, tire prices are expected to align with these changes.

Substitute Commodities:

- Public transportation
- Air transportation

12. Vehicles

Upstream Supply Chain:

- Auto Parts Manufacturers
  - Iron & Steel Manufacturers
- Car Battery Manufacturers
  - Copper, Nickel, Lead and Zinc Mining

Analysis: Supply chain risk is significant as the market depends on both iron and steel manufacturing and mining for metals such as lead and zinc, both of which experience high levels of volatility. Supply chain disruptions can lead to long-term shortages of specific parts in vehicle manufacturing, leading to temporary price spikes for certain types of cars that depend more heavily on a product.

Downstream Supply Chain:

- Automobile Wholesalers
- Car Rental Dealers
- Fleet Vehicle Suppliers

Analysis: New passenger vehicles are typically sold directly to a consumer, from an automobile wholesaler or dealer to a car rental agency to rent to customers or to fleet vehicle suppliers, which are provided to large corporations as a part of their fleet. As vehicles are a crucial aspect of day-to-day life for many customers and businesses, downstream demand is relatively stable and only impacted significantly by large-scale events.

13. Labor: Professional Services

Forecast CAGRS:

- 6 Month: 5.4%
- 1 Year: 4.6%
- 2 Year: 3.8%
- 3 Year: 3.6%

Analysis: Wages in professional services markets are expected to increase over the following three years as inflationary pressures push employers to continually raise wages during the period. Wage growth is being fueled by rising housing, food, and overall increases in the cost of living. Professional services employers must also raise wages at a faster rate than other industries in order to retain current talent and attract new workers. After wage growth peaked in July 2022 at 6.0%, growth has slowed amongst high-skill positions since then.

External Sources

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