

## CustomIQ Research

# Inflation & Commodity Trends

Zach Locy

September 2024

### 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, and upstream and downstream supply chain analysis for each primary commodity.

### Contents

Executive Summary.....	2
Commodity Analysis.....	3
1. Aluminum.....	3
2. Chlorine.....	4
3. Food Products .....	5
4. Crude Oil.....	6
5. Lumber .....	7
6. Natural Gas .....	8
7. Plastic.....	10
8. Semiconductors .....	11
9. Steel.....	13
10. Consumer Paper Products.....	14
11. XaaS.....	15
12. Vehicles .....	16
13. Labor: Professional Services.....	18
External Sources.....	19



## Executive Summary

- The Federal Reserve cut rates by half a point at the September 2024 meeting, lowering the federal funds rate to a range between 4.75%-5.00%. This cut marked the first reduction since March 2020.
  - Reduction in interest rates in the short term will continue to impact commodities, particularly over the six-month horizon, as economic activity is expected to be stimulated by this move.
  - Increased economic activity, particularly in manufacturing and building projects, is expected to increase demand for products such as lumber, and for metals such as aluminum. This increase in demand is expected to raise prices for primary and secondary commodities.
  - Reducing interest rates is expected to support economic growth and stabilize the labor market, as borrowing will become cheaper for businesses. This change will allow companies to expand operations more easily, invest in new initiatives, and hire more workers for these projects.
- Demand from large global consumers, such as China, remains low as the country consumes metals and other commodities at lower rates than average. At the same time, supply growth for metals is anticipated to grow stronger, thus contributing to price declines.
  - China continues to maintain an essential role in metals markets. For example, Chinese demand is expected to lift aluminum prices as the country increasingly focuses on 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 are expected to face their first price decelerations as supply levels rise amidst successful harvests and as global supply chains stabilize.
- Both crude oil and natural gas are expected to experience volatility over the next three years, following different trends.
  - Although crude oil prices are experiencing short-term growth due to declines in inventories, they are predicted to stabilize and begin declining further into the forecast period as supply stabilizes.
  - The natural gas market is poised to see an uptick in prices in the near future, driven by greater global demand and expanded exports amidst flat domestic production.



## Commodity Analysis

### 1. Aluminum

#### Forecast CAGRs:

- 6 Month: 4.7%
- 1 Year: 5.9%
- 2 Year: 2.4%
- 3 Year: 1.2%

**Analysis:** Aluminum prices are expected to continue increasing throughout the following three-year period as demand remains high. Interest rate cuts are expected to contribute to upward pressure on prices in the forecast period, as economic activity is expected to increase. Lower interest rates are expected to lead to an increase in manufacturing and building projects, which are expected to increase demand for aluminum, contributing to rising prices for the metal.

#### 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 continue to rise, prices may see further growth.
- Canned Goods
  - Canned goods and beverage manufacturers will see input costs increase over the next three years as aluminum prices climb due to greater demand and rising overhead costs.
- Vehicle/Vehicle Parts
  - Vehicle and auto part prices are expected to increase as aluminum prices rise.

#### 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 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 and canned goods and beverage suppliers. Aluminum demand is expected to rebound as interest rates are cut and policies surrounding combatting inflation continue to take effect, contributing to upward pressure on market prices.



## 2. Chlorine

### Forecast CAGRS:

- 6 Month: 1.2%
- 1 Year: 4.4%
- 2 Year: 2.1%
- 3 Year: 1.9%

**Analysis:** The price of chlorine is expected to continue increasing at steady rates throughout the following three-year period. Demand is expected to remain high as declining interest rates stimulate economic activity. Demand is expected to grow significantly from pool maintenance and water treatment customers during the forecast period, as paused projects resume as conditions improve for manufacturing activity. Volatility in the market is expected to continue declining as the market continues to recover from substantial supply chain disruptions due to incidents at significant production facilities in Louisiana and Kentucky. Additionally, high energy and labor costs are expected to further contribute to price growth in the market.

### Secondary Commodities:

- Pharmaceutical Products
  - As chlorine shortages resolve themselves, pharmaceutical products and medicines that use chlorine as components are expected to continue increasing in price. However, increases are expected to occur at much 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. However, as of September 2024, most supply disruptions associated with these incidents have been fully resolved.

### 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: 2.2%
- 1 Year: 1.6%
- 2 Year: 1.3%
- 3 Year: 1.3%

**Analysis:** Food product prices are expected to decelerate throughout the forecast period as increased production and supply levels help to bring prices down from extreme surges during the previous three years. Major supply chain disruptions occurred due to the ongoing Russia-Ukraine war, which has begun to subside as exports have resumed from the region and manufacturers have rerouted supply chains to accommodate disruptions. Additionally, abundant supply levels for inputs such as wheat and maize are expected to stabilize food prices significantly.

#### Secondary Commodities:

- Animal Feed/Products
  - Food products and grain are significant components of the typical animal feed farmers use. 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; however, the growth rate is expected to stabilize as food prices decelerate.

#### 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: 3.7%
- 1 Year: 1.9%
- 2 Year: 1.3%
- 3 Year: -2.6%

**Analysis:** The price of crude oil is currently experiencing high volatility. In the short term, crude oil prices are expected to resume increasing as global inventories decline due to OPEC announcing delays in production increases from October 2024 to December 2024. As oil production declines, short-term price increases are expected to be larger than those further into the forecast period. Oil prices are expected to stabilize further into the forecast period as production resumes to average levels, and economic activity continues to increase, which is expected to stabilize demand.

### Secondary Commodities:

- Diesel/Gasoline
  - In September, gasoline and diesel prices currently stand at \$3.223 and \$3.583 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 stabilize in the future.
- 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



## 4. Crude Oil

### 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
- Rubber Product Manufacturers
- Plastics & Related Products Manufacturers

**Analysis:** Downstream demand shocks in the market can significantly strain oil markets; however, as inventories are high, downstream supply chain issues are limited.

## 5. Lumber

### Forecast CAGRS:

- 6 Month: 5.4%
- 1 Year: 6.2%
- 2 Year: 8.7%
- 3 Year: 4.8%

**Analysis:** The price of lumber is expected to increase over the forecast period as demand for new homes surges throughout the United States. There is a large supply and demand gap for houses, currently at about 4.5 million homes. This shortage of homes is expected to contribute to increased new construction throughout the country, which is expected to put further strain on lumber markets. Declining interest rates are expected to stimulate construction activity further, as building projects and demand have been impacted significantly due to the rapid rise in interest rates during the previous three years. The first cut in the interest rate by the Federal Reserve in four years is expected to lead to a significant uptick in building activity, which is likely to translate to substantial increases in demand for lumber, contributing to increasing market prices.



## 5. Lumber

### Secondary Commodities:

- Toilet Paper
  - As lumber prices steadily increase, personal paper products that depend on wood pulp, such as toilet paper, are forecast to grow through 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
- Lumber & Building Material Stores

**Analysis:** Easing 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 more incentivized to spend on home repair and remodeling, increasing lumber demand and increasing prices.

## 6. Natural Gas

### Forecast CAGRS:

- 6 Month: 11.1%
- 1 Year: 15.4%
- 2 Year: 5.6%
- 3 Year: 2.7%

**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 as domestic production remains flat amidst rising demand and foreign exports entering the market. Agencies also expect natural gas surpluses to end during the forecast period, contributing to further increasing pressure on market prices.





## 6. Natural Gas

### 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 expected 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

**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. While these trends continue to increase, impacts on price growth are expected to be limited as natural gas is still a primary energy product.



## 7. Plastic

### Forecast CAGRS:

- 6 Month: 4.5%
- 1 Year: 2.9%
- 2 Year: 1.3%
- 3 Year: 0.6%

**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 move alongside crude oil prices in the short term. Demand for plastic is expected to increase as interest rates have been cut, promoting economic activity and industrial projects. Lower oil prices later in the forecast period are expected to cause input costs for plastics manufacturers to decline, restricting price growth in 2025 and beyond.

### Secondary Commodities:

- Medical Equipment
  - Plastic is a crucial 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.
- Disposables and Polystyrene Foam
  - As disposable bottles and bags rely on plastic, 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.
- 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



## 7. Plastic

### 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 critical 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:

- 6 Month: -2.9%
- 1 Year: -1.4%
- 2 Year: 0.5%
- 3 Year: 1.6%

**Analysis:** Forecasts for semiconductors continue to fluctuate significantly. Significant supply chain disruptions in the market have largely recovered, and experts anticipate a largely optimistic outlook for the market as sales recover from negative growth in late 2023 and early 2024. Price growth in the market is expected to be mitigated by high competition and innovation. China's recent advancements in manufacturing capacity have triggered strategic price reductions in wafer foundries, pushing semiconductor chip prices lower across the industry. Innovations and expanding AI adoption may also increase demand for advanced or specialized semiconductors, which is expected to contribute to price growth further into the forecast period.



## 8. Semiconductors

### Secondary Commodities:

- Cell Phones
  - The semiconductor market for mobile phones is projected to continue declining, with minor recovery expected further into the forecast period, which is expected to contribute to rising prices.
- Computers, Copiers, Web Cameras, and Smartboards
  - The demand for computers has reversed course and begun increasing as laptop and computer shipments have increased. As demand for computers increases, market prices for products and inputs such as semiconductors are expected to start rising into the forecast period.
- Vehicles
  - EV demand has declined, and interest in purchasing EVs in the future has continued to decline, according to a survey by AAA. This trend has been attributed to factors such as consumer range anxiety, inadequate charging infrastructure, and unaffordable pricing amid declining consumer confidence, which is currently at a three-year low.

**Substitute Commodities:** N/A

### Upstream Supply Chain:

- Semiconductor Machinery manufacturers
  - Steel Manufacturers
  - Iron Manufacturers
  - Aluminum Manufacturers
- Copper Rolling, Drawing & Extruding Suppliers
  - Copper Miners
- Chemical Product Manufacturers
  - Silicon Suppliers

**Analysis:** While silicon production slowed during the past three years, silicon wafer shipments are expected to increase in 2025 as they become increasingly used for new applications like AI and 5G. This trend will continue to increase demand for semiconductors, helping to restrict price declines in this market further into the forecast period.

### Downstream Supply Chain:

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

**Analysis:** As demand for consumer electronics is projected to decrease in the remainder of 2024 and 2025, this is expected to lead to a broader range of products at potentially lower prices.



## 9. Steel

### Forecast CAGRS:

- 6 Month: -8.4%
- 1 Year: -10.2%
- 2 Year: -8.2%
- 3 Year: -4.1%

**Analysis:** Global steel prices are projected to decline in the remainder of 2024 and throughout the forecast period, primarily due to slow growth in China’s property sector. Demand for steel in China remains very high, while production remains high, leading to a significant excess in the country, which is sold on the global market at low prices. Increased domestic demand is expected to occur due to cuts in the interest rate by the Federal Reserve, which is expected to limit the rate at which prices fall in the early stages of the forecast period.

### Secondary Commodities:

- Grounds Maintenance Equipment
  - Grounds maintenance equipment, such as shears, is made of hardened carbon or chromium steel. Declining steel prices are expected to contribute to downward pressure on this equipment.
- Heavy Equipment
  - Steel is the backbone for scaffolding, cranes, bulldozers, and other heavy equipment. Declining prices are expected to contribute to downward pressure on heavy equipment.
- Industrial MRO Supplies
  - Declining steel prices are expected to place 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. Declining prices are expected to place downward pressure on these pieces of equipment.
- Vehicle & Vehicle Parts
  - Steel is a critical 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



## 9. Steel

### 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 primary energy source. This reliance is especially true in the blast furnace method, the most common steel production method globally. The decline in coal and energy prices, alongside reduced demand from machinery manufacturers and construction, will continue to pressure steel prices downward.

### Downstream Supply Chain:

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

**Analysis:** Downstream demand for steel includes products and services that rely on steel and steel-based products as a critical 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: 2.4%
- 1 Year: 1.7%
- 2 Year: 1.4%
- 3 Year: 0.7%

**Analysis:** Consumer paper products are expected to move in line with lumber prices over the forecast period, which shows steady growth over the next three years. Nonetheless, prices will increase slowly in the short term due to high levels of supply and muted increases in consumer spending, which directly impact the paper industry because less consumer spending means less demand for paper products, keeping their prices under control. Declining consumer confidence is expected to keep demand for personal and household products low during the forecast period, further contributing to minor changes in price during the following three years.

**Secondary Commodities:** N/A

### Substitute Commodities:

- Paper alternatives (Recycled materials, bamboo, other materials)



## 10. Consumer Paper Products

### 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.

### 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: 4.4%
- 1 Year: 3.1%
- 2 Year: 2.9%
- 3 Year: 2.7%

**Analysis:** Software-as-a-Service and Infrastructure-as-a-Service prices are projected to increase as supplier costs continue to rise. Rising electricity and energy costs, costs of living, and wages are pressuring software companies to raise prices to protect profits and revenue. 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.

### Substitute Commodities:

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



## 11. XaaS

### **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 buyers. 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: 2.6%
- 1 Year: 2.5%
- 2 Year: 1.4%
- 3 Year: -0.7%

**Analysis:** Passenger vehicles are expected to continue increasing in price over the following three years, with declines expected to occur at the end of the forecast period. As the Federal Reserve has cut the interest rate, demand is expected to increase in the short term as rates improve. However, auto loan rates are often slow to move, and the impact of this effect may not be felt immediately in the market. Declining consumer confidence is expected to impact demand negatively, mitigating upward pressure on prices.





## 12. Vehicles

### **Fleet Vehicles**

#### **Forecast CAGRS:**

- 6 Month: 2.9%
- 1 Year: 3.1%
- 2 Year: 2.8%
- 3 Year: 2.5%

**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 and beyond. The surge in final leg delivery operations, especially by businesses like Amazon, is expected to accentuate this upward trend.

#### **Secondary Commodities:**

- Gasoline/Diesel:
  - In September, gasoline and diesel prices currently stand at \$3.223 and \$3.583 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

#### **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 fleet vehicle suppliers, 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: 4.7%
- 1 Year: 5.2%
- 2 Year: 5.1%
- 3 Year: 4.8%

**Analysis:** Wages in professional services markets are expected to increase over the following three years as inflationary pressures push employers to raise wages continually. Wage growth is being fueled by rising housing, food, and overall increases in the cost of living. However, as relief is expected with household products, including food and housing, wage growth is expected to slow marginally. Wage growth is expected to face similar increases over the three-year period, as employers in the professional services market target similar merit increases to salaries to retain talent within companies.



## External Sources

1. Bankrate [www.bankrate.com](http://www.bankrate.com)
2. McKinsey & Company [www.mckinsey.com](http://www.mckinsey.com)
3. Bureau of Economic Analysis [www.bea.gov](http://www.bea.gov)
4. Forbes [www.forbes.com](http://www.forbes.com)
5. S&P Global [www.spglobal.com](http://www.spglobal.com)
6. NPR [www.npr.org](http://www.npr.org)
7. Macrotrends [www.macrotrends.net](http://www.macrotrends.net)
8. CNBC [www.cnbc.com](http://www.cnbc.com)
9. Reuters [www.reuters.com](http://www.reuters.com)
10. World Bank [www.worldbank.org](http://www.worldbank.org)
11. Farm Progress <https://www.farmprogress.com/>
12. Wall Street Journal <http://www.wsj.com/>
13. The Fabricator [www.thefabricator.com](http://www.thefabricator.com)
14. Yahoo [www.yahoo.com](http://www.yahoo.com)
15. National Association of Home Builders [www.nahb.org](http://www.nahb.org)
16. Stockhead [www.stockhead.com.au](http://www.stockhead.com.au)
17. FitchRatings [www.fitchratings.com](http://www.fitchratings.com)
18. World Semiconductor Trade Statistics [www.wsts.org](http://www.wsts.org)