

A World Bank Group
Report

OCTOBER 2026

Commodity Markets Outlook



WORLD BANK GROUP

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Commodity Markets Outlook

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The World Bank's *Commodity Markets Outlook* is published twice a year, in April and October. The report provides detailed market analysis for major commodity groups, including energy, agriculture, fertilizers, metals, and precious metals. Price forecasts for 46 commodities are presented. Commodity price data updates are published separately at the beginning of each month. The data cutoff date for this report is October 14, 2026.

The report and data can be accessed at www.worldbank.org/commodities.

For inquiries and correspondence, email: commodities@worldbank.org.

Executive Summary

The Middle East conflict has dealt a historic shock to energy supplies, but several other shocks are also hitting commodity markets. Hostilities between Russia and Ukraine are impeding Black Sea grain and oilseed shipments and constraining Russia's output of oil products, notably diesel. A very strong El Niño threatens the production of agricultural commodities. In addition, supply constraints amid demand from renewables- and technology-linked investment have propelled base metals prices higher. Overall, commodity prices are projected to increase by 23 percent in 2026, to their second-highest level since 2013, led by a 32 percent jump in energy prices. As global oil production drops more than 5 percent in 2026, Brent oil prices are forecast to remain elevated in the near term, averaging \$91 per barrel for the year. Oil prices would be higher still if oil demand were not set to fall 2.5 percent this year, the third-largest drop behind the COVID-19 pandemic in 2020 and the oil crisis in 1980. Food commodity prices are on track to climb by 10 percent in 2026, well above the April forecast. Metal and minerals prices are projected to reach an all-time high. In 2027, commodity prices are forecast to decline by 7 percent, with Brent prices receding to \$79 per barrel and slight reductions in other energy and metal prices, but a further 7 percent rise in food prices. Even so, 2027 price projections have mostly been revised up since April, by 14 percent for energy. The forecast hinges on a confluence of moderating factors: no major escalation of the Middle East conflict, a recovery in Russia's oil output, easing constraints on Black Sea food shipments, and manageable crop losses from El Niño. Setbacks on these fronts could mean persistently high energy prices and stress in food markets. In an adverse scenario, oil prices would average \$105 per barrel in 2027, and food prices would exceed their 2022 level. Such developments would drive global inflation higher and worsen food insecurity.

The state of commodity markets

The outlook for commodity markets has become increasingly complex amid potentially reinforcing shocks related to multiple conflict fronts and an unusually powerful El Niño. Crude oil exports from the Gulf region have recently been close to preconflict volumes, aided by pipeline flows and workarounds such as ship-to-ship transfers beyond the Strait of Hormuz. Nonetheless, flows of refined oil products from the region have remained depressed amid damage to refineries, at less than half of preconflict levels in September. Meanwhile attacks on Saudi Arabia's East-West Pipeline and threats to shipping in the Red Sea highlight the potential vulnerability of alternative export routes for crude oil that helped to attenuate disruptions this year. After dipping in August, global oil production picked up in September but still fell short of global consumption (figure 1.A). Against this backdrop, Brent crude prices reached about \$110 per barrel (\$/bbl) in mid-October.

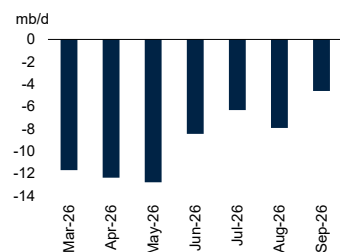
Since March, the oil market has relied primarily on lower oil consumption and inventory draws to balance, although increased oil production outside

the Middle East has also contributed. Global observed oil inventories were drawn down at an average rate of about 2.4 million barrels a day (mb/d) from March to September, helping to buffer a persistent production deficit (figure 1.B). Global oil consumption has nonetheless proved responsive to higher prices, declining by 5 mb/d (y/y) in 2026Q2 and 3.7 mb/d in Q3. Several producers outside the Gulf have ramped up output, collectively adding nearly 2.2 mb/d, on average, since the conflict began, while trading patterns have adjusted to connect importers usually dependent on the Gulf with alternative suppliers. In 2026Q2, during the deepest supply shortfalls in the Middle East, shifts in oil trade in the United States and China illustrated these trends. U.S. exports of crude oil and oil products increased by about 1.7 mb/d relative to February, enabled by inventory releases and a pickup in production, while China's imports declined by more than 5 mb/d as refinery runs fell and oil stocks were drawn (figure 1.C). The global oil production surplus last year, which exceeded 2 mb/d in 2025Q4, also reduced the extent of the adjustments to global demand (figure 1.D).

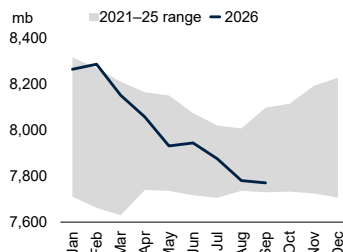
FIGURE 1 Developments in oil markets

Global oil production losses have moderated since the outset of the conflict in the Middle East but remain significant. Global observed oil inventories have declined by about 2.4 million barrels a day since the conflict began, helping to buffer a persistent production deficit. Increases in U.S. oil exports played an important role in balancing the global oil market earlier this year, although a sharp drop in China's oil imports has been the larger swing factor in global oil trade. Despite sizable declines in oil consumption, global oil demand has substantially exceeded supply since the Middle East conflict started.

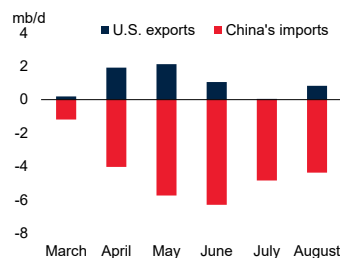
A. Estimated oil production losses relative to February 2026



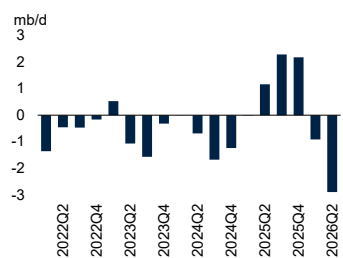
B. Global oil inventories



C. Changes in China's oil imports and U.S. oil exports since February 2026



D. Global oil market balance, 2022Q1–2026Q2



Sources: General Administration of Customs of the People's Republic of China; International Energy Agency (IEA); U.S. Energy Information Administration; World Bank.

Note: mb = million barrels; mb/d = million barrels per day.

A. Data based on IEA's *Oil Market Report* (October 2026 edition).

B. Monthly data from various editions of the IEA's *Oil Market Report* for global observed inventories. Last observation is September 2026. The gray area depicts the range of inventories for each month over 2021–25.

C. Changes in U.S. exports and China's imports in each month compared with values in February 2026. Values are in gross terms and include both crude oil and oil products.

D. The implied oil market balance is the difference between supply and demand. Data based on IEA's *Oil Market Report* (October 2026 edition).

Wholesale prices of key oil products, especially diesel and jet fuel, have climbed considerably more than those of crude oil since March (figure 2.A). This mainly reflects the effects of Middle East supply outages, as well as attacks on oil infrastructure in the Russian Federation, following its invasion of Ukraine. With oil product exports from the Gulf region sharply curtailed, Russia would typically be a major alternate supplier. Yet damage to Russia's refining and export capacity has curbed output, prompting the imposition of fuel export restrictions. In all, net diesel exports from

Russia and the Middle East dropped by an estimated 60 percent (y/y) in September, with about half the shortfall offset by other exporters. Global constraints on refining capacity have therefore pushed refining spreads beyond historical norms, even during crude oil price surges (figure 2.B). Steep increases in the cost of diesel contributed to International Energy Agency (IEA) member countries agreeing in early October to release 100 million barrels of oil reserves through January 2027, initially focused on diesel. Diesel prices dipped with the announcement, but the decline reversed in subsequent weeks.

As the Middle East conflict has extended, and with the Northern Hemisphere winter coming into view, upward pressure has mounted on natural gas prices in economies dependent on liquefied natural gas (LNG) imports. By mid-October, European natural gas prices, which are largely determined by spot LNG prices, had nearly tripled from preconflict levels. Although LNG transits through the Strait of Hormuz have recently started to increase, far fewer LNG vessels than crude tankers have transited since the June memorandum of understanding between the Islamic Republic of Iran and the United States did not produce a follow-on agreement. Even with improved flows in September, LNG shipments were estimated at only about one quarter of pre-conflict cargoes. The expansion of LNG supplies from elsewhere is fundamentally constrained by infrastructure requirements to liquefy and transport gas.

Agricultural markets are experiencing a confluence of shocks. A very strong El Niño has begun to influence production and prices in markets including rice and sugar, while producers are bracing for pockets of flooding, drought, and heat stress across multiple regions (figure 2.C; box 1). The prospect of powerful weather shocks adds to the challenge of navigating elevated input costs for fuel and some fertilizers—although urea prices declined in 2026Q3, diammonium phosphate prices continued to rise. In addition, the recent escalation of hostilities in the Black Sea has seriously disrupted food exports from a

breadbasket region, contributing to a 14 percent increase in global grain prices between June and September. Food prices would likely have risen even more in recent months if not for near-record supplies of staple grains coming out of the global 2025–26 season.

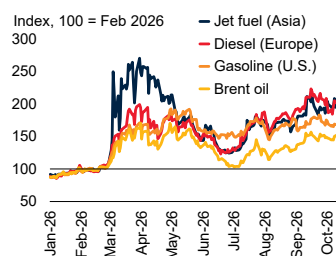
The World Bank Group's metals and minerals index (which excludes precious metals) has increased by 31 percent this year, relative to the first nine months of 2025. Since April, prices of aluminum, copper, and tin have all hit records. Copper mine output has been somewhat lower than anticipated, while aluminum prices were driven to new peaks in May by conflict-related declines in supply from the Middle East. Meanwhile, the prospect of additional U.S. tariffs has increased inventory demand for copper. More broadly, structural conditions for a sustained spell of elevated base metal prices appear to be in place as global investment transitions toward more base-metal-intensive sectors and supply growth remains relatively limited. For precious metals, pronounced geopolitical and policy uncertainty continues to sustain high prices, amid marked volatility (figure 2.D). Gold, silver, and platinum prices regained upward momentum starting in July, lifting average January to September prices for 2026 by 42, 71, and 110 percent, respectively.

Beyond the drivers of individual commodity prices, commodity market connectedness—defined as the extent to which the volatility of one commodity price can be explained by shocks to other commodity prices—has shifted over time (special focus; figure 3.A). Variation in connectedness can reflect global shocks that trigger common commodity price reactions, or idiosyncratic shocks that induce changes via substitution or complementarity relationships, or supply chain connections. Linkages that transmit price volatility from one commodity to others (transmitted connectedness) tend to become more pronounced when economic or commodity market stress episodes arise, including following the start of the current Middle East conflict (figure 3.B). On average, industrial metals transmit the

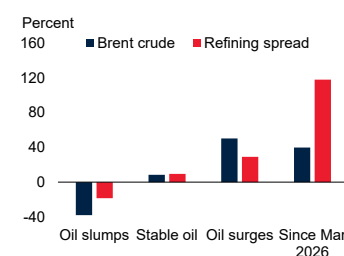
FIGURE 2 Recent price pressures and volatility in commodity markets

Many oil products have seen price increases far outstripping those for crude oil so far in 2026, reflecting global constraints on available refining capacity. Indeed, refining spreads have risen much further on average than during previous oil price surges. Meanwhile, in agricultural markets, a very strong El Niño is underway, putting upward pressure on some food and beverage prices. Precious metal prices have eased slightly from historically high levels in recent months amid continued volatility, albeit less pronounced than in early 2026.

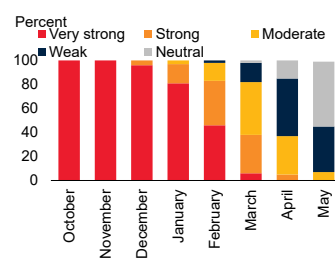
A. Brent oil and refined product prices



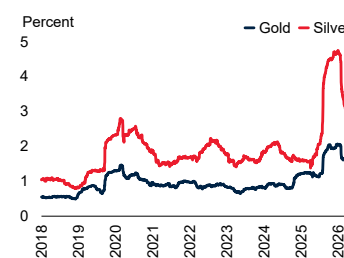
B. Average change in refining spreads by oil price change, 2000–26



C. Projected strength of 2026–27 El Niño



D. Volatility of precious metal prices



Sources: Bloomberg; National Oceanic and Atmospheric Administration (NOAA); World Bank.

A. Daily data through October 14, 2026. U.S. gasoline is represented by RBOB (Reformulated Blendstock for Oxygenate Blending) gasoline front-month futures. Diesel (Europe) is Low Sulphur Gasoil front-month futures. Jet fuel (Asia) is the Singapore jet fuel free-on-board spot price.

B. Refining spread is the 3-2-1 crack spread comparing Brent crude to Nymex product prices, assuming a ratio of 2 barrels of gasoline produced for every barrel of diesel. Slumps / surges are defined as months when the average price of Brent oil has fallen / risen by more than 20 percent year-on-year. Stable months are defined as all other observations. Sample from January 2000 to September 2026.

C. Bars show the probability of El Niño (red bars) and ENSO neutral (El Niño–Southern Oscillation neutral conditions; gray bars), provided for eight upcoming, overlapping 3-month seasons (for example October = September, October, November). The color shading within the bars indicates the chances of different categories of El Niño: neutral ($-0.5^{\circ}\text{C} \leq \text{Index} < 0.5^{\circ}\text{C}$), weak ($0.5^{\circ}\text{C} \leq \text{Index} < 1.0^{\circ}\text{C}$), moderate ($1.0^{\circ}\text{C} \leq \text{Index} < 1.5^{\circ}\text{C}$), strong ($1.5^{\circ}\text{C} \leq \text{Index} < 2.0^{\circ}\text{C}$), and very strong ($\text{Index} \geq 2.0^{\circ}\text{C}$). Data issued in October 2026.

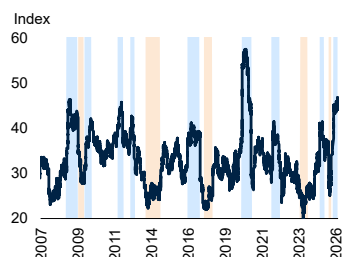
D. Gold and silver volatility is measured as the 6-month rolling standard deviation of daily log price changes. A higher value indicates greater price volatility. Last observation is October 14, 2026.

most volatility to other commodity groups, likely because they are a bellwether for broader economic cycles (figure 3.C). At the onset of the Middle East conflict the primary transmitters of price volatility were oil and aluminum, both subject to direct supply disruptions, while precious metals also played a prominent role amid geopolitical strains (figure 3.D).

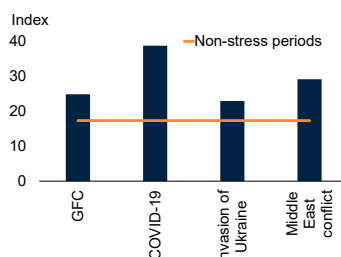
FIGURE 3 Commodity market connectedness

The degree to which commodity price volatility can be explained by shocks to other commodity prices (commodity market connectedness) varies over time. The propagation of price variation from specific commodities to broader commodity prices intensifies during stress periods. On average, industrial metals transmit the most volatility to other commodity groups, but these relationships are not static—the role of oil in transmitting volatility rose markedly after the onset of the current Middle East conflict.

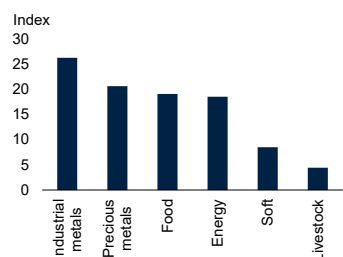
A. Total connectedness



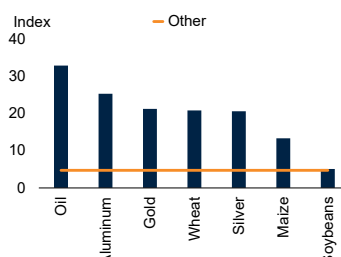
B. Transmitted connectedness during stress periods



C. Transmitted connectedness by commodity group



D. Rise in transmitted connectedness after the Middle East conflict started



Source: World Bank.

Note: Connectedness metrics are computed from an underlying elastic net VAR model incorporating one lag and including 15 commodities. Full sample is May 5, 2006 to Jun 26, 2026. See special focus for methodological detail. GFC = global financial crisis.

A. Total connectedness is defined as the average, for all commodities, of their share of price volatility forecast error variance associated with shocks to other commodity prices. Model estimated from 2006 onwards for rolling samples, each incorporating 150 daily observations. Blue shades are peaks and orange shades are troughs.

B–D. The transmitted connectedness of a given commodity is defined as the sum across all other commodities of the shares of their price volatility forecast error variance associated with shocks to that given commodity.

B. Periods of global stress defined with the following windows: September 1, 2008 to June 1, 2009 (GFC); March 1, 2020 to November 1, 2020 (COVID-19); February 1, 2022 to September 1, 2022 (Russia's invasion of Ukraine); March 1, 2026 to June 26, 2026 (Middle East conflict). Bars indicate average transmitted connectedness across all commodities.

C. Bars indicate average transmitted connectedness across commodities in each group for the full sample period. Energy = crude oil and natural gas; food = maize, soybeans, and wheat; industrial metals = aluminum, copper, nickel, and zinc; livestock = live cattle and lean hogs; precious metals = gold and silver; soft commodities = coffee and cotton.

D. Bars show the change in average transmitted connectedness between January–February 2026 and March–June 2026 for selected commodities. The yellow line shows the average change for all other commodities.

also easing. The likely impacts of El Niño on agricultural commodities are assessed with reference to past very strong episodes. Global economic growth is assumed to remain moderate, in line with the recent consensus among private sector forecasters, while investment in sectors like data centers and renewables—important drivers of metal demand—is expected to remain robust. On this basis, the World Bank Group's commodity price index is forecast to increase by 23 percent in 2026 (y/y), reaching its second-highest level since 2013, before prices retreat by 7 percent in 2027 (figure 4.A; table 1).¹

Energy

In the baseline, energy prices are set to increase by 32 percent (y/y) this year, then retreat by 12 percent in 2027. Relative to the April forecasts, projected energy prices have been revised higher by 7 percent for 2026 and 14 percent for 2027, reflecting longer but less intense Middle East supply disruptions. The Brent oil price is projected to average almost \$100/bbl in 2026Q4, as the global oil market remains in deficit amid tanker shortages and continued attacks on vessels, resulting in an average price of \$91/bbl for the year. Although month-to-month volatility in export flows may continue, the recent increase in crude shipments from the Gulf is assumed to prove durable overall, allowing global oil production to near its 2025 level in 2027. Rising crude supplies are expected to ease market tightness, supporting a decline in prices to an average of \$79/bbl next year.

Global oil consumption is anticipated to contract by 2.6 mb/d (2.5 percent) in 2026, the third-largest decline on record, after the pandemic year of 2020 and the oil market turmoil of 1980. Lower oil consumption this year reflects

Outlook

The baseline commodity price forecast assumes no major intensification of hostilities in the Middle East. In addition, it is assumed that Russia's capacity to export oil returns broadly to normal next year, with attacks affecting Black Sea shipping

¹ Commodity price baseline forecasts and alternative scenarios are generated with reference to commodity-specific demand and supply data and a range of modelling techniques (for example, univariate time series models, vector autoregressions, local projections, other regression models, semi-structural models, and machine learning approaches), as well as futures markets data, private sector forecasts, and judgment. Approaches differ by commodity, reflecting variability in available data and market structures.

disruptions to petrochemicals production owing to feedstock shortages and curbs on exports, substitution away from oil in some industrial processes amid high prices, and reduced need for transport fuels as adoption of electric vehicles (EVs) increases, especially in China. Consumption is expected to rebound by about 2 percent next year as oil-intensive activity recovers, but behavioral and policy-induced shifts away from oil are likely to leave a lasting imprint, reducing the oil intensity of economic activity. In 2027, after multiple large shocks this decade, global oil consumption is expected to lag its 2010–19 trajectory by more than 9 percent, roughly double the comparable anticipated shortfall in global economic output (figure 4.B).

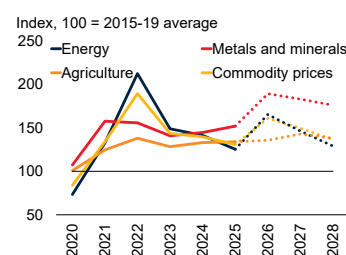
Global oil supply is projected to fall by 5.5 mb/d (5.2 percent) in 2026, the largest decline in more than four decades outside the 2020 global recession. Modest increases in oil output in advanced economies, such as Canada and the United States, as well as in Latin America and the Caribbean, are on track to offset only a small share of very large production losses in the Middle East (figure 4.C). Next year, operational adaptations that have facilitated increased crude oil exports from the Gulf region in recent months are assumed to remain effective, allowing shipments to continue gradually building. A recovery in the global production of refined products is likely to lag. Refinery throughput is anticipated to recover to preconflict levels around mid-2027, as repairs to refineries and export facilities progress in the Middle East and Russia, and refining capacity expands elsewhere. On this basis, absent additional lasting damage to oil infrastructure, global oil production is projected at about 106 mb/d in 2027, returning the market to a substantial surplus in the second quarter.

European natural gas prices, after surging by a projected 58 percent (y/y) this year to \$19 per million British thermal units (\$/mmbtu), are expected to fall by only 8 percent next year to \$17.5/mmbtu—a large upward revision from the April forecast. Higher-for-longer prices, relative to oil, reflect production prospects for LNG, which

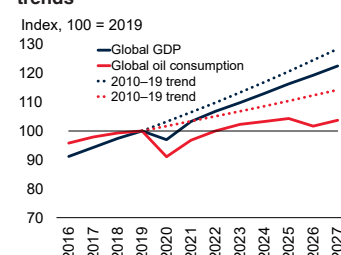
FIGURE 4 Outlook for commodity markets

Global commodity prices are set to increase by an average of 23 percent in 2026 before retreating by 7 percent in 2027. The recovery of global oil consumption in 2027 is projected to be tepid, partly because an accelerated shift to electric vehicles is likely to have a lasting effect. Oil demand is therefore expected to substantially lag its 2010–19 trend in the coming years. Oil production in 2026 is on track to increase outside the Middle East, but this is far outweighed by declines in the Gulf region. As conflict-driven shocks stoke food price pressures, El Niño is also expected to raise some food commodity prices materially, consistent with historical experience. In fertilizer markets, China has been a swing urea supplier in 2026, dampening prices by accelerating exports since the middle of the year. Strong demand from the energy transition and data centers is likely to help sustain a high-price regime for base metals.

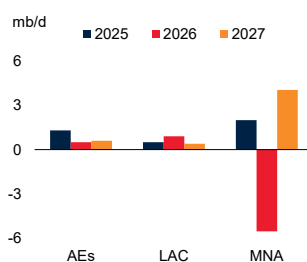
A. Commodity price forecasts



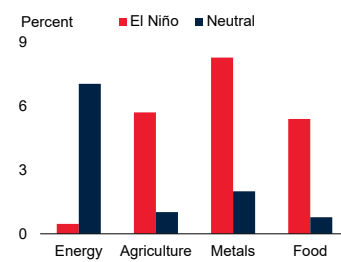
B. Global economic output and oil consumption relative to 2010–19 trends



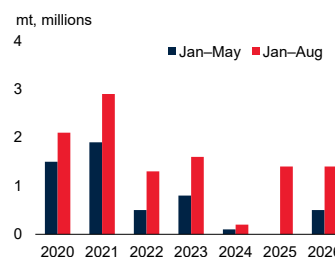
C. Changes in oil production



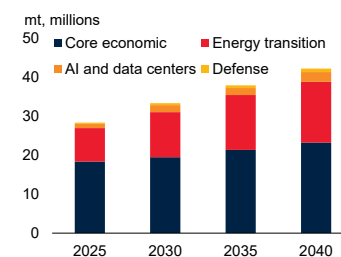
D. Commodity price changes around historical El Niño episodes



E. Urea exports by China



F. Drivers of future metals demand



Sources: Consensus Economics; General Administration of Customs of the People's Republic of China; International Energy Agency (IEA); National Oceanic and Atmospheric Administration (NOAA); S&P Global; World Bank.

Note: AEs = advanced economies; AI = artificial intelligence; LAC = Latin America and the Caribbean; mb/d = million barrels per day; MNA = Middle East, North Africa, Afghanistan, and Pakistan; mt = metric ton.

A. Commodity prices line refers to the World Bank Group's commodity price index, which excludes precious metals. Dashed lines indicate forecasts.

B. Dotted lines indicate counterfactual levels based on average annual growth in 2010–19, extended from 2019. 2026–27 are forecasts. Global output forecast is from Consensus Economics (September 2026 edition).

C. Bars show year-on-year changes in supply. Data for 2026 and 2027 are forecasts.

D. Six-month lagged year-on-year price changes in percent based on El Niño and neutral years between 1970 and 2025. El Niño is defined by a positive Niño-3.4 sea-surface temperature anomaly of $\geq 0.5^{\circ}\text{C}$, while conditions between -0.5°C and $+0.5^{\circ}\text{C}$ are classified as ENSO-neutral.

E. Bars show China's cumulative urea exports from January to May and from January to August of each year.

F. Data based on the S&P report, Copper in the Age of AI: Challenges of Electrification (2026).

sets marginal natural gas prices in many European and Asian economies. LNG production is more concentrated in economies heavily affected by the conflict than oil production, and natural gas output in the Middle East is expected to remain below its 2025 level in 2027, in large part because of damage to LNG trains in Qatar. Although natural gas production is projected to expand elsewhere next year, global demand is also anticipated to recover, such that Asian and European markets remain notably tight. Meanwhile, U.S. natural gas prices are forecast to increase by 6 percent in 2027 from much lower levels, partly owing to increasing LNG export demand.

Coal prices are on course to climb by 25 percent (y/y) in 2026 on stronger demand and supply constraints. Prices are then projected to ease by 4 percent next year, as demand for coal as a substitute fuel softens amid lower energy prices more broadly and the expansion of renewables. Global coal consumption is expected to inch down next year, driven mostly by declines in Europe, with coal output edging higher owing to increased production in China and India.

Agriculture and fertilizers

Average food commodity prices are expected to rise by 10 percent (y/y) in 2026. This partly reflects the early effects of El Niño on actual and prospective supplies of tropical commodities. However, larger impacts stem from the knock-on effects of high energy prices and from disruption to food commodity exports through the Black Sea owing to attacks on maritime infrastructure. In 2027, food commodity prices are forecast to climb by another 7 percent, led by a 9 percent rise in grain prices. This mainly reflects headwinds to rice production in Asia and wheat production globally, generally related to deteriorating growing conditions, in some cases because of El Niño. Oils and meals prices are projected to increase by 8 percent, driven by soybean-derived products because of robust demand for animal feed and biofuels, as well as El Niño-related curbs on palm oil production.

Beverage prices are expected to retreat by 24 percent (y/y) in 2026, as both cocoa and coffee production recover from past disease- and weather-related declines. Average beverage prices are forecast to broadly stabilize thereafter, as declining coffee prices partly offset a pickup in cocoa prices. In all, the World Bank Group's agricultural commodity price index—a composite measure for food, beverages, and raw materials—is forecast to inch up this year, then gain 5 percent in 2027.

The effects of El Niño are evident in several price forecast revisions relative to April 2026. The palm oil price forecast, for instance, has been revised higher by 15 percent in 2027 amid unusually dry conditions in Indonesia. Adverse weather conditions related to El Niño have also disrupted the planting and harvesting of rice and sugar, for which 2027 price forecasts have been revised up by 21 percent and 12 percent, respectively. Next year's projected average cocoa price, while still well below the 2025 level, has also been raised by nearly 30 percent since April.

Despite substantial challenges for a subset of commodities, the overall impact of El Niño on food commodity prices is expected to be manageable, consistent with historical experience (figure 4.D). At the global level, price pressures are likely to be mitigated by the varied nature of the related weather effects, which can lift production in some locations while hindering it in others. Solid harvests in aggregate for key crops are also likely to help contain price increases. For example, although global grain output is anticipated to drop somewhat this year, total grain supplies in 2026–27 are still expected to be 3 percent larger than in 2024–25. Moderate effects at the global level, however, do not preclude El Niño-driven price spikes in specific locations.

Average fertilizer prices are anticipated to rise by 14 percent (y/y) in 2026, mainly reflecting a surge in urea prices earlier in the year, which has since subsided owing to accelerated exports from China, among other factors (figure 4.E). Some other fertilizers, including potash, are nonetheless set for

meaningfully higher average prices this year, in part because of farmers shifting purchases away from more expensive fertilizers. Next year, fertilizer prices are forecast to revert to about 2025 levels, premised on declining energy costs and improved access to inputs such as ammonia and sulfur.

Metals and minerals

The World Bank Group's metals and minerals price index is projected to reach a new high in 2026, rising by a projected 25 percent (y/y). Prices of base metals, including aluminum, copper, and tin, are on track for large gains reflecting various supply constraints and growing investment in energy transition and other advanced technologies. Meanwhile, iron ore prices weigh on the aggregate index amid tepid traditional construction investment, especially in China. The metals and minerals index is projected to edge 3 percent (y/y) lower in 2027 as supply conditions improve somewhat for several base metals owing to fading production or export disruptions and new capacity coming on stream. For copper, however, mined supply growth is anticipated to remain subdued, reflecting factors such as declining ore grades in Chile, the world's largest producer. Assuming global economic growth holds up, buoyant base metal demand driven by, for example, the expansion of renewable energy infrastructure, electric vehicles, and data centers is likely to keep medium-term prices elevated (figure 4.F).

Precious metal prices are also expected to register a steep average increase of 40 percent in 2026, amid strong demand for diversifying financial assets against a strained geopolitical backdrop. Gold and silver are both in line to set annual price records. Precious metal prices are assumed to moderate somewhat in 2027 as recent increases in advanced economy interest rates soften financial investment flows into non-yielding assets, and high prices incentivize innovation to minimize industrial use. Precious metal prices are nonetheless expected to remain at more than three times their 2015–19 average.

Risks

Risks to the commodity price projections are tilted toward higher prices, owing to both the severity of such risks and their potential to amplify each other. The greatest risk is that intensified hostilities in the Middle East again sharply curb oil exports. Larger-than-expected conflict-related disruptions in Russia and Ukraine could also drive up commodity prices. El Niño could destabilize agricultural commodity production more than anticipated, generating another source of price increases. On the other hand, a durable settlement of the Middle East conflict could see energy prices plunge, exerting downward pressure on wider commodity prices. The broadest risk of lower-than-forecast prices is that global economic growth disappoints.

Risks of higher commodity prices

Renewed conflict-driven energy supply losses

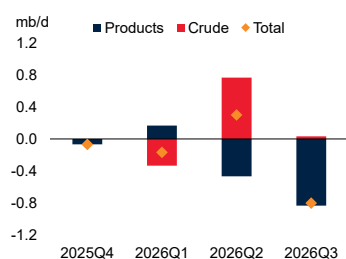
Although shipping traffic through the Strait of Hormuz has recently increased, attacks on vessels have continued. A major, sustained re-escalation of hostilities in the Middle East could again constrict crude oil flows and further squeeze global supplies of refined oil products and LNG. The recent attack on the East-West Pipeline highlights that bypass routes are also vulnerable to disruption. Moreover, Gulf pipelines are assumed to be fully operational in the baseline, but damage to this infrastructure or more strikes on ships in the Red Sea could deepen a renewed oil supply shortfall.

Conflict-related risks to oil markets are not limited to the Middle East. Although Russia's exports are assumed to be unconstrained next year in the baseline, damage to its infrastructure meaningfully reduced oil product exports in 2026Q3 (figure 5.A). If outages at oil facilities in Russia continue at their recent frequency, global oil production could further undershoot projected consumption, with diesel shortages a particular concern. Any worsening of oil export prospects in the Middle East or Russia would occur against a backdrop of depleted strategic and commercial energy stocks,

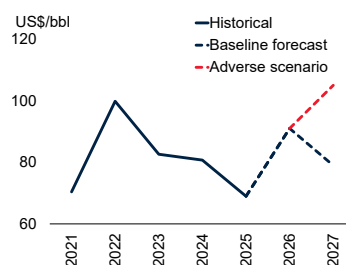
FIGURE 5 Risks to the commodity price forecasts

A key risk to commodity prices is that a re-escalation of the conflict in the Middle East again drastically reduces crude oil exports. This could be amplified by continued conflict-related weakness in Russia's oil exports, including refined products such as diesel. In a scenario where conflict-driven disruptions cut oil production in the first half of 2027 to about 100 mb/d, oil prices would surge anew, with Brent averaging \$105/bbl for the year. Combined with higher energy prices, the effects of an exceptional El Niño could push food commodity prices substantially above expectations, especially if grain trade in the Black Sea also remains impeded. Under these circumstances, food commodity prices would exceed the baseline forecast by 11 percent in 2027. Broadly lower-than-forecast commodity prices could materialize if there is a sharp deceleration in global economic activity, with the largest impacts on energy and metals.

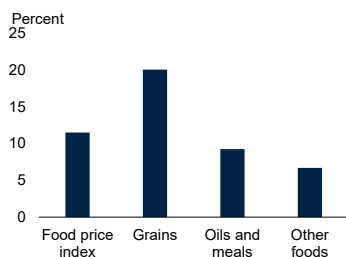
A. Change in Russia's crude oil and oil product exports



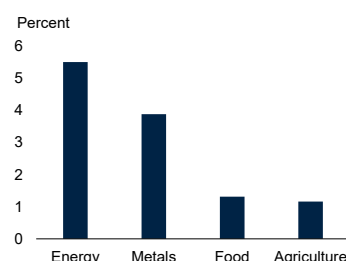
B. Oil price forecast and adverse scenario



C. Increase in food commodity prices in 2027 in the adverse scenario, relative to the baseline forecast



D. Change in prices associated with a 1 percentage point increase in global industrial production growth



Sources: Bloomberg; Federal Reserve Bank of Dallas; International Energy Agency (IEA); World Bank.

Note: bbl = barrel; mb/d = million barrels per day.

A. Monthly data averaged by quarter. Bars show quarter-on-quarter changes. Data are from the IEA's *Oil Market Report* (October 2026 edition).

B. Dashed blue line indicates baseline forecast for 2026–27 for Brent crude oil price; red line represents the 2027 forecast in the adverse scenario.

C. Bars show the percentage difference in 2027 for the food price index and sub-indexes under the adverse scenario compared with the baseline forecast.

D. Bars show coefficients from individual OLS regressions of commodity prices on coincident global industrial production and the foreign exchange value of the U.S. dollar. Variables are measured as the 3-month moving average of year-on-year differences in the natural log of levels. Sample from January 2000 to June 2026. All coefficients are significant at the 1 percent level.

could be an inaccurate guide to the scale of forthcoming disruptions, such that the baseline food commodity forecasts prove too sanguine. An exceptional El Niño could result in weather events of extreme severity in unexpected locations, with flooding and droughts undermining growing conditions for commodities including rice, palm and coconut oil, soybeans, cocoa, and coffee. This could significantly lift prices of beverages, oils and meals, and grains.

At the same time, any extension of recent strikes targeting grain shipments in the Black Sea could push maize and wheat supplies from Russia and Ukraine—collectively the source of about 30 percent of global wheat exports—below projections, raising prices. These shocks, especially if coupled with continued high energy prices, could transform the moderate food price increases in the baseline into a period of severe food stress more akin to the early 2010s.

Adverse commodity price scenario

In an adverse scenario for commodity prices, several conflict- and weather-related shocks to energy and food markets coincide next year. A re-escalation of hostilities in the Middle East reduces oil supplies from the Gulf region over the first half of 2027 by about 5 mb/d, relative to the baseline. Over the same period, an extended campaign of strikes on oil infrastructure keeps Russia's crude oil and oil product exports close to their 2026Q3 volumes. Together, these factors reduce global oil production to about 100 mb/d in the first half of next year. Subsequently, the disruptions gradually abate, with conditions reverting toward those in the baseline. These events generate further rapid depletion of oil stocks early next year, increasing concerns about inventories becoming scarce. Under these circumstances, the Brent oil price averages \$105/bbl in 2027, an increase of 15 percent from 2026, and 33 percent above the 2027 baseline (figure 5.B). Wider energy prices would also materially exceed forecasts, given lower LNG supplies and stronger demand for coal as an alternative fuel.

heightening the sensitivity of markets to further challenges.

Overlapping food supply shocks

There is a high probability that the 2026–27 El Niño will be the strongest since 1950, when comparable records begin. Historical precedents

In food commodity markets, the effects of El Niño prove highly damaging for some crop harvests. At the same time, higher-than-forecast energy prices lift food input costs and induce greater biofuel production, strengthening substitution-related crop demand and raising food prices. In addition, continued hostilities disrupt grain shipments from Russia and Ukraine in the first half of 2027. The scale is comparable to export reductions in Ukraine in 2022 (before the Black Sea Grain Initiative), and in Russia in 2010–11, when grain exports were heavily restricted. As conflict- and El Niño-related risks materialize together, amplifying one another, average food commodity prices exceed the baseline forecast by 12 percent in 2027, with grain prices 20 percent higher than in the baseline (figure 5.C). This would lift food commodity prices next year to narrowly above their 2022 level.

Risks of lower commodity prices

A durable resolution of the Middle East conflict

A durable settlement of the conflict in the Middle East could alleviate threats to shipping in the region, facilitating an accelerated release of pent-up crude stocks through the Strait of Hormuz and other channels. Prices would then decline rapidly as supplies ramp up and concerns about declining inventories and future disruptions abate. Adding to downward pressure on prices, the squeeze on shipping capacity would fade as reliance on ship-to-ship transfers and longer, lower-risk shipping routes diminishes and insurance costs decline. Crude oil prices could then fall considerably more swiftly than in the baseline. The recovery of oil product supplies would likely still be somewhat delayed, although if physical risks were drastically reduced, some refinery repairs might also be expedited.

Weaker-than-expected global economic growth

The baseline forecast assumes that global economic growth remains resilient over the forecast horizon. If global growth were to instead slow meaningfully, and for reasons other than

commodity-driven shocks, then weaker demand generally would result in lower-than-forecast commodity prices. These effects would likely be pronounced among commodities with heightened exposure to cyclical sectors, notably energy and metals, as well as some raw materials such as rubber (figure 5.D). A drop in base metal prices could be especially pronounced if growth slowed in part because of a dimming of prospective returns from investment in artificial intelligence, with an attendant sharp tightening of global financial conditions that would hamper broader capital spending.

Broader implications

The expected trajectory of commodity prices in the baseline forecast and the risks associated with that forecast have broader potential consequences for the global economy. These include implications for global inflation, monetary policy stances in advanced economies and emerging market and developing economies (EMDEs), food insecurity, and the policy challenge of confronting destabilizing commodity shocks.

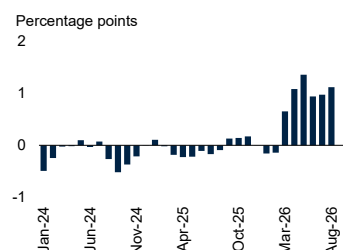
Inflation and interest rates

Prior to the conflict in the Middle East, global inflation was expected to decline this year. The energy shock since March has rekindled inflationary pressures, with energy directly contributing about 1 percentage point to inflation across the G7 in recent months (figure 6.A). Whether these dynamics intensify in 2027 will depend substantially on the path of energy prices. Given the baseline commodity price forecasts, energy-driven inflation would likely turn negative globally around the second quarter of next year, subtracting from headline inflation. If risks instead materialize such that energy prices and headline inflation continue to rise, higher fuel costs could affect core inflation through second-round effects or destabilize inflation expectations. Under these conditions, central banks, already facing salient public memory of the postpandemic inflation surge, may judge that a spell of tighter monetary policy is necessary.

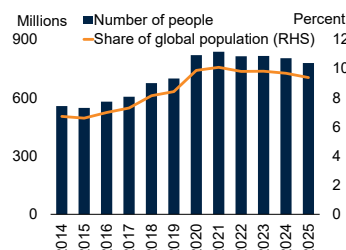
FIGURE 6 Implications of the commodity price forecasts and risks

The rise in energy prices has rekindled inflationary pressures globally, contributing to policy rate increases by some G7 central banks that could deepen challenges facing emerging market and developing economies. Severe food insecurity has resumed a gradual decline in recent years but remains elevated compared with the 2010s. Fragile and low-income economies, where food insecurity is already elevated, are some of the most exposed to risks related to El Niño. Facing a plethora of possible shocks, governments may be tempted to implement new restrictions on commodity trade, as has occurred with increasing frequency in the 2020s, but such measures can be counterproductive.

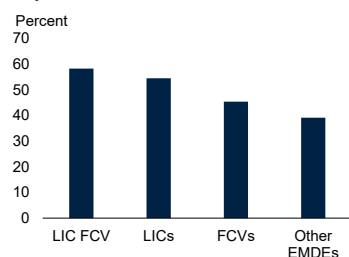
A. Contribution of energy to CPI inflation in G7 countries



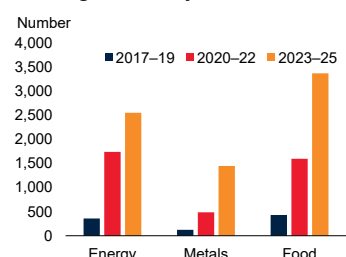
B. Prevalence of severe food insecurity



C. Proportion of economies with high exposure to El Niño



D. New trade-restrictive measures affecting commodity trade



Sources: Callahan and Mankin (2023); Food and Agriculture Organization of the United Nations (FAOSTAT database); Global Trade Alert (database); Organisation for Economic Co-operation and Development; World Bank.

Note: EMDEs = emerging market and developing economies; FCV = fragile, conflict, and violence-affected countries; LICs = low-income countries; RHS = right-hand side.

A. Energy contribution estimated as energy inflation in G7 countries multiplied by GDP-weighted CPI shares.

B. 2025 is estimated data based on FAOSTAT database.

C. Country-level ENSO teleconnections, based on Callahan and Mankin (2023). Teleconnection scores are calculated as the sum of the absolute values of the correlation coefficients between the E-index and monthly country-level temperature and precipitation from 1960 to 2019. High exposure refers to the top tercile of the teleconnection score distribution.

D. Number of new harmful measures introduced globally in each period affecting each commodity group: energy (oil, coal, and natural gas), metals (aluminum, cobalt, copper, iron ore, lead, nickel, tin, and zinc), and food (barley, maize, rice, and wheat). Data as of September 25, 2025.

Indeed, the systemically most important advanced economy central banks—the U.S. Federal Reserve and the European Central Bank—have already pivoted to raising interest rates. Most EMDE central banks have not recently increased policy rates, but if energy inflation builds rather than fades, more EMDE central banks will face difficult trade-offs between tolerating high inflation to support activity and defending their inflation-

fighting credibility. A more hawkish turn by advanced economy central banks could compound these challenges by encouraging capital to flow out of EMDEs, thereby putting downward pressure on EMDE currencies and potentially stoking broader financial volatility.

Food insecurity

The global fight against food insecurity has made only halting gains since the COVID-19 pandemic drove more people into hunger. People experiencing severe food insecurity worldwide numbered 779 million in 2025, down from 803 million in 2024 and 837 million in 2021. Even so, efforts to reduce food insecurity have regressed since the 2010s: severe food insecurity affected 9.5 percent of the global population in 2025, compared with an average of 8.1 percent in 2015–19 (figure 6.B). Moreover, the baseline outlook brings an end to the tailwind from falling global food commodity prices between 2023 and 2025, which had put downward pressure on consumer food costs. In this context, EMDE food price inflation picked up to a median of 3.9 percent (y/y) in 2026Q3, from 3.5 percent the previous quarter, and may firm further as sizable increases in grain and oilseed prices feed through.

Furthermore, although the price forecasts in the baseline do not imply major stress in global food markets, vulnerable economies and subnational areas may still face disruptions to agricultural output, conflict, or other shocks to incomes that sharply curtail food affordability. Indeed, the risk of new food security challenges is elevated, especially given that El Niño exposure tends to be greatest in already fragile and low-income economies (figure 6.C). For instance, some countries in the Sahel could experience rainfall shortfalls, which could tighten food supplies and exacerbate preexisting risks of instability.

Fragmentation of commodity trade

Amid major disruptions to critical commodity supplies, policymakers may be tempted to implement trade restrictions in the name of economic security. Indeed, so far in the 2020s,

new trade-restrictive measures targeting commodity trade have become much more common (figure 6.D). Such measures, even when they appear domestically attractive, can ultimately fragment markets in counterproductive ways.

Already in 2026, anticipated levies on copper imports have driven up the price of a crucial input for many strategic technologies. Fuel and fertilizer export restrictions in some economies likely exacerbated global price shocks relating to the conflict in the Middle East this year, albeit with some measures subsequently rolled back. Additional export restrictions on refined oil products could discourage refinery production, worsening already tight supplies and pushing global prices even higher. Perhaps most importantly, the capacity of global food markets to absorb multiple shocks in the coming months depends on largely free flows in the trade of food. In past food price spikes, trade-restrictive measures intended to insulate domestic consumers triggered panic buying and stoked larger global price increases (Ha, Kose, and Ohnsorge 2019).

The World Bank Group's response to the conflict in the Middle East

To support countries facing rising fiscal pressures and other impacts from the conflict in the Middle East, the World Bank Group has made \$50 billion to \$60 billion available through existing instruments, including \$25 billion in pre-arranged

financing. This can support social safety nets for the most vulnerable people, boost fiscal capacity, and provide working capital and liquidity support for firms and farms. To date, 25 countries have received \$8.7 billion in support: 10 countries have reoriented existing IDA and IBRD financing toward crisis-related expenses using the Crisis Toolkit (\$1.8 billion), and 19 countries have accessed new financing (\$6.9 billion), with some countries using both. If the conflict and its economic fallout persist, the World Bank Group can scale up its support to \$80 billion to \$100 billion.

While emergency response measures can provide a crucial bridge through a period of stress, emerging market and developing economies (EMDEs) can improve their capacity to withstand future shocks by cultivating greater long-term resilience. Over the five years through 2030, the World Bank Group is targeting a fivefold increase in financing of the metals and minerals sector, to \$19 billion, to support mineral-rich EMDEs in converting their natural endowments into lasting prosperity. To foster dynamic private sectors and help create jobs more broadly, the World Bank Group has accelerated and simplified its ability to catalyze private capital flows alongside its financing and knowledge services. Through enhanced private capital mobilization, the institution will seek to deepen investment in the next generation of youth in client countries—in particular, by improving the conditions for job creation.

TABLE 1 Commodity prices

TABLE 1 Commodity prices							October 2026 forecasts (percent change from previous year)			April 2026 forecasts (indexes)	
Commodity	Unit	2024	2025	2026f	2027f	2028f	2026f	2027f	2028f	2026f	2027f
Indexes (in nominal U.S. dollars, 2010 = 100)											
Total ¹		105.1	98.4	121.1	112.6	102.7	23.1	-7.0	-8.8	113.7	99.8
Energy ²		101.5	90.0	118.8	105.1	92.7	32.0	-11.5	-11.8	111.3	92.1
Non-energy		112.5	115.4	125.8	127.7	122.9	9.0	1.5	-3.8	118.7	115.4
Agriculture		115.0	115.7	117.3	123.5	119.3	1.4	5.3	-3.4	109.3	110.0
Beverages		176.4	207.3	157.7	162.7	161.3	-23.9	3.2	-0.9	144.8	147.8
Food		115.8	109.2	120.4	129.1	122.4	10.3	7.2	-5.2	111.9	113.3
Oils and meals		106.9	104.5	122.4	132.0	124.6	17.1	7.8	-5.6	109.0	109.3
Grains		112.9	101.3	115.6	126.4	114.8	14.1	9.3	-9.2	103.7	106.0
Other food		130.4	122.7	122.1	127.7	126.5	-0.5	4.6	-0.9	123.1	125.2
Raw materials		81.6	84.9	89.0	89.8	90.1	4.8	0.9	0.3	84.9	82.6
Timber		79.6	81.8	82.6	83.9	85.2	1.0	1.6	1.5	81.7	82.9
Other raw materials		83.9	88.4	96.1	96.3	95.6	8.7	0.2	-0.7	88.4	82.2
Fertilizers		117.6	138.7	158.6	138.9	127.5	14.3	-12.4	-8.2	181.3	152.1
Metals and minerals ³		106.7	112.2	139.7	135.1	129.9	24.5	-3.3	-3.8	130.8	122.3
Base metals ⁴		114.1	122.3	156.5	151.4	145.5	28.0	-3.3	-3.9	145.8	135.6
Precious metals ⁵		180.2	258.6	361.9	331.8	311.8	39.9	-8.3	-6.0	368.3	337.7
Prices (in nominal U.S. dollars)							October 2026 forecasts (percent change from previous year)			April 2026 forecasts (prices)	
Energy											
Coal, Australia	\$/mt	136.1	108.4	135.0	130.0	125.0	24.5	-3.7	-3.8	130.0	115.0
Crude oil, Brent ⁶	\$/bbl	80.7	69.0	91.0	79.0	70.0	31.9	-13.2	-11.4	86.0	70.0
Natural gas, Europe	\$/mmbtu	11.0	12.0	19.0	17.5	12.5	58.3	-7.9	-28.6	15.0	12.0
Natural gas, United States	\$/mmbtu	2.2	3.5	3.5	3.7	3.9	0.0	5.7	5.4	3.8	4.0
Liquefied natural gas, Japan	\$/mmbtu	12.8	12.0	20.0	18.0	13.0	66.7	-10.0	-27.8	16.0	13.0
Non-energy											
Agriculture											
Beverages											
Cocoa	\$/kg	7.33	7.80	4.90	5.40	5.35	-37.2	10.2	-0.9	3.80	4.20
Coffee, Arabica	\$/kg	5.62	8.47	7.35	7.20	7.00	-13.2	-2.0	-2.8	7.25	7.00
Coffee, Robusta	\$/kg	4.41	4.86	3.85	3.80	3.90	-20.8	-1.3	2.6	4.00	3.90
Tea, average	\$/kg	3.04	2.91	2.85	2.95	3.00	-2.1	3.5	1.7	2.85	3.00
Food											
Oils and meals											
Coconut oil	\$/mt	1519	2480	2110	1815	1629	-14.9	-14.0	-10.2	2301	2111
Groundnut oil	\$/mt	1796	1666	1818	1971	2030	9.1	8.4	3.0	1722	1740
Palm oil	\$/mt	963	1007	1146	1256	1144	13.8	9.6	-8.9	1089	1096
Soybean meal	\$/mt	442	366	430	471	474	17.5	9.5	0.6	359	363
Soybean oil	\$/mt	1022	1140	1585	1765	1601	39.0	11.4	-9.3	1233	1236
Soybeans	\$/mt	462	414	489	515	490	18.1	5.3	-4.9	441	446
Grains											
Barley	\$/mt	...	...	164	172	170	...	4.9	-1.2	172	174
Maize	\$/mt	191	203	223	235	211	9.9	5.4	-10.2	211	214
Rice, Thailand, 5%	\$/mt	588	408	448	500	468	9.8	11.6	-6.4	401	413
Wheat, United States, HRW	\$/mt	269	243	311	353	315	28.0	13.5	-10.8	253	260

TABLE 1 Commodity prices

TABLE 1 Commodity prices							October 2026 forecasts (percent change from previous year)			April 2026 forecasts (prices)	
Commodity	Unit	2024	2025	2026f	2027f	2028f	2026f	2027f	2028f	2026f	2027f
Prices (in nominal U.S. dollars)											
Non-energy											
Other food											
Bananas, United States	\$/kg	1.23	1.10	1.15	1.23	1.21	4.5	7.0	-1.6	1.10	1.12
Beef	\$/kg	5.93	6.86	7.53	7.86	7.93	9.8	4.4	0.9	7.60	7.81
Chicken	\$/kg	1.46	1.71	1.78	1.90	1.90	4.1	6.7	0.0	1.69	1.72
Oranges	\$/kg	2.26	1.42	0.86	0.88	0.87	-39.4	2.3	-1.1	1.15	1.20
Shrimp	\$/kg	...	...	8.70	9.11	9.77	...	4.7	7.2	9.00	9.47
Sugar, World	\$/kg	0.45	0.37	0.37	0.38	0.35	0.0	2.7	-7.9	0.35	0.34
Raw materials											
Timber											
Logs, Africa	\$/cum	379	395	405	410	414	2.5	1.2	1.0	400	405
Logs, S.E. Asia	\$/cum	197	199	190	200	209	-4.5	5.3	4.5	190	200
Sawnwood, S.E. Asia	\$/cum	697	718	735	740	747	2.4	0.7	0.9	725	730
Other raw materials											
Cotton	\$/kg	1.91	1.71	1.95	2.00	2.02	14.0	2.6	1.0	1.65	1.75
Rubber, TSR20	\$/kg	1.75	1.77	2.20	2.30	2.32	24.3	4.5	0.9	1.90	1.95
Tobacco	\$/mt	5899	6881	6750	6500	6290	-1.9	-3.7	-3.2	6700	5500
Fertilizers											
DAP	\$/mt	564	685	735	602	501	7.3	-18.1	-16.8	725	650
Phosphate rock	\$/mt	153	153	161	158	156	5.2	-1.9	-1.3	160	170
Potassium chloride	\$/mt	295	348	383	347	335	10.1	-9.4	-3.5	390	365
TSP	\$/mt	475	578	646	550	521	11.8	-14.9	-5.3	625	550
Urea, E. Europe	\$/mt	338	423	510	429	368	20.6	-15.9	-14.2	675	500
Metals and minerals											
Aluminum	\$/mt	2419	2632	3250	3100	3000	23.5	-4.6	-3.2	3200	3000
Copper	\$/mt	9142	9947	13200	13000	12500	32.7	-1.5	-3.8	12000	11000
Iron ore	\$/dmt	109.4	100.2	98.0	95.0	92.0	-2.2	-3.1	-3.2	97.0	95.0
Lead	\$/mt	2069	1962	1910	1925	1950	-2.7	0.8	1.3	1950	1950
Nickel	\$/mt	16814	15162	17200	17250	17500	13.4	0.3	1.4	17000	17500
Tin	\$/mt	30066	34059	51000	45000	39500	49.7	-11.8	-12.2	41000	37000
Zinc	\$/mt	2776	2868	3500	3100	2800	22.0	-11.4	-9.7	3000	2750
Precious metals											
Gold	\$/toz	2388	3442	4600	4250	4000	33.6	-7.6	-5.9	4700	4300
Silver	\$/toz	28.3	39.8	70.0	62.0	58.0	75.9	-11.4	-6.5	70.0	65.0
Platinum	\$/toz	955	1278	1950	1750	1610	52.6	-10.3	-8.0	1950	1700

Source: World Bank.

Note: f = forecast.

1. The World Bank Group's total commodity price index is composed of energy and non-energy prices, weighted by their share in 2002-04 exports. The total index is weighted as 67 percent energy and 33 percent non-energy. The non-energy index is weighted as 64.9 percent agriculture, 31.6 percent metals and minerals (excluding precious metals), and 3.6 percent fertilizers.

2. Energy price index includes coal (Australia), crude oil (Brent), and natural gas (Europe, Japan, United States).

3. Base metals plus iron ore.

4. Includes aluminum, copper, lead, nickel, tin, and zinc.

5. Precious metals are not part of the non-energy index.

6. For Brent oil, historical numbers reflect Dated Brent prices for physical spot market transactions, while forecasts are for front-month Brent futures prices.

Energy

The conflict in the Middle East has dealt a historic shock to global oil production, which is expected to decline by 5.5 mb/d (5.2 percent) in 2026. Although lower oil consumption is on course to offset about half of the reduction in supplies, a large drawdown of oil inventories has left the world less prepared for future disruptions. Against this backdrop, global energy prices are expected to rise by 32 percent in 2026, with Brent oil prices averaging \$91 per barrel. Shortages of some refined fuels have become acute: average U.S. diesel prices reached record levels in October. Amid depleted liquefied natural gas (LNG) shipments, European natural gas prices are slated to jump by almost 60 percent this year. Average energy prices are forecast to decrease by about 12 percent in 2027, with Brent oil retreating to \$79 per barrel. This forecast assumes a continued gradual increase in crude oil exports from the Middle East, aided by pipeline flows and workarounds for shipping through the Strait of Hormuz. Yet damaged refineries and gas-export facilities are expected to delay the recovery of diesel and LNG supplies. Near-term risks are tilted toward higher prices, as conflict-driven energy market disruptions could deepen. In an adverse scenario, renewed hostilities in the Middle East reverse the recovery in oil production, while Russia's oil exports remain diminished due to hostilities with Ukraine. Brent oil prices surge anew, averaging \$105 per barrel in 2027. Downside risks to prices become more prominent later in the forecast period. A durable settlement of the Middle East conflict could accelerate the return of global energy supplies, while growth of solar and wind generation and rapid adoption of electric vehicles could weigh on demand for fossil fuels.

Oil

Recent developments

In mid-October, front-month Brent futures reached about \$110 per barrel (bbl) as markets weighed rising crude supply and an accelerated release of emergency oil stockpiles by International Energy Agency (IEA) members against conflict in the Middle East (figure 7.A). Entering October, average Middle East oil exports approached their 2025 level owing to greater use of ship-to-ship transfers and untracked shipments (figure 7.B). The recovery was concentrated on crude oil and condensates, while oil products exports, including diesel, have lagged, partly because refinery damage. Tanker shortages, which drove Gulf voyage rates to record highs, together with intensifying attacks on vessels, thinning inventories and concerns about longer-term supply, kept Brent prices elevated (figure 7.C).

Prior to the most recent developments, oil prices remained exceptionally volatile in 2026Q3, as a brief easing of Middle East tensions was followed by renewed hostilities in the Gulf and Red Sea, an attack on Saudi Arabia's East-West Pipeline, and intensifying attacks on the Russian Federation's oil facilities. After the June memorandum of

understanding (MoU) between the Islamic Republic of Iran and the United States did not produce a follow-on agreement, Brent futures fluctuated widely, between \$75/bbl and \$100/bbl, before remaining above \$100/bbl in September and October. Physical dated Brent prices rose faster, signaling growing scarcity of near-term supplies.

In 2026Q3, a partial recovery in China's oil imports, following sharp declines in 2026Q2, eroded a critical source of earlier price relief (figure 7.D). Meanwhile, global observed oil inventories fell: after starting 2026 at about 8,250 million barrels (mb)—close to the top of their 2021-25 range—inventories at end-September were close to the bottom, having fallen more rapidly even than in 2021 (figure 7.E). Key oil product markets tightened sharply due to much Gulf refining capacity offline, and export product restrictions in Russia introduced to safeguard domestic supplies after intensifying Ukrainian attacks. The premium of European diesel over Brent crude reached a record monthly average of about \$91/bbl in September, before moderating slightly the following month, while average U.S. retail diesel prices approached \$6.2 per gallon for the first time in October (figure 7.F). Atlantic Basin refining margins reached record highs.

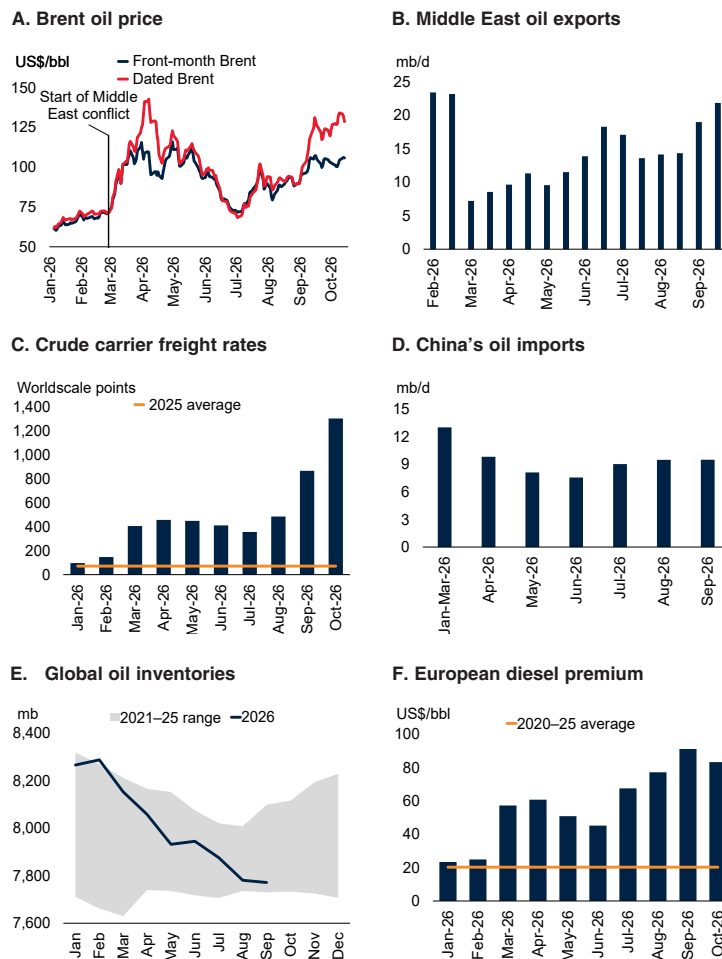
The Middle East conflict and higher prices continued to weigh on oil consumption in 2026Q3, but less than earlier in the year. Global demand is estimated to have fallen by 3.7 mb/d, or 3.4 percent (y/y), after contracting by 5.0 mb/d, or 4.8 percent (y/y) in 2026Q2. Emerging market and developing economies (EMDEs) accounted for 2.4 mb/d of this decline, or 4.1 percent (y/y), following a 3.3 mb/d (y/y) drop in 2026Q2 (figure 8.A).

China accounted for about 35 percent of the decline in EMDE oil consumption in 2026Q2-Q3 (figure 8.B). This partly reflected the displacement of 0.6 mb/d (y/y) of oil consumption by electric vehicles (EVs)—a now established trend. Consumption also declined substantially in the India, Islamic Republic of Iran, Russia, Saudi Arabia, and United Arab Emirates, amid disruptions to petrochemical production, among other factors. In 2026, demand is estimated to fall by 2.9 percent in China and by 7.1 percent in the Middle East, North Africa, Afghanistan and Pakistan (MNA). Demand is expected to decline by 1.5 percent in Sub-Saharan Africa (SSA), and by up to 2.5 percent in the other regions, except Latin America and the Caribbean (LAC), where growth is driven mainly by Brazil (figure 8.C).

Restricted transit through the Strait of Hormuz drove a fall in global oil production of 9.1 mb/d (8.6 percent) (y/y) in 2026Q2 and 7.2 mb/d (6.6 percent) in the following quarter. Saudi Arabia and Iraq accounted for most of the losses—about 4.4 mb/d and 2.1 mb/d, respectively, or roughly up to 45 percent of each country's 2025 output. Decreases in the Islamic Republic of Iran, Kuwait, and Qatar ranged from 1.2 to 1.5 mb/d, while production in the United Arab Emirates was reduced by only 0.3 mb/d (figure 8.D). Gains in oil production elsewhere provided limited relief. The combined increases of 2.2 mb/d in Brazil, Kazakhstan, Nigeria, Oman, República Bolivariana de Venezuela, and the United States offset only 18 percent of average gross losses in global supply over the two quarters. In 2026 as a whole, production is set to contract sharply in MNA and to rise modestly in LAC and advanced economies (figure 8.E).

FIGURE 7 Oil market: Global price and market developments

In mid-October, front-month Brent futures reached about \$110 per barrel (bbl) as markets weighed rising oil exports from the Middle East against mounting tanker shortages, higher transport costs, attacks on vessels, and thinning of inventories. Crude oil prices rose sharply in 2026Q3 as hopes for a near-term end to hostilities faded and renewed attacks heightened concerns about Gulf supplies. The increase coincided with a partial recovery in China's imports and renewed drawdowns in global inventories. Amid material damage to refineries in the Gulf region, product markets also tightened, particularly for diesel, with the European diesel premium rising to nearly \$90/bbl in September.



Sources: Bloomberg; General Administration of Customs of the People's Republic of China; International Energy Agency (IEA); Reuters; World Bank.

Note: bbl = barrel; mb = million barrels; mb/d = million barrels per day.

A. Two-day average of daily spot (dated Brent) and front-month Brent futures prices. Last observation is October 14, 2026.

B. Daily data, averaged semi-monthly. The bars indicate oil flows through Hormuz, the Gulf of Oman, and the Red Sea. Last observation is September 30, 2026.

C. Daily data, averaged by month. Bars show the price of the current-month TD3C forward freight agreement (FFA) for shipping 270,000 metric tons of crude oil on a very large crude carrier from Saudi Arabia to China. Prices are in Worldscale points. A value of 1,200 points implies net revenues of roughly \$1.3 million per day from hiring out a ship in time charter equivalent, using early October 2026 assumptions. Orange line shows the 2025 average. October 2026 is a month-to-date average. Last observation is October 14, 2026.

D. Monthly data. Bars show crude and oil product imports. Last observation is September 2026.

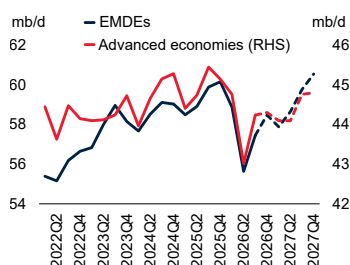
E. Monthly data from various editions of the IEA's *Oil Market Report* for global observed inventories. Last observation is September 2026. The gray area depicts the range of inventories for each month over 2021-25.

F. Daily data, averaged by month. The premium is measured as the difference between European diesel and Brent futures prices. Orange line represents the 2020-25 average. Last observation is October 14, 2026.

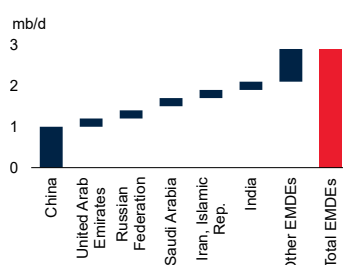
FIGURE 8 Oil market: Demand and supply

Global oil consumption is projected to fall by 2.6 mb/d in 2026, owing to the effects of high prices and supply shortages. The decline is clustered in EMEs, with sizeable falls occurring in China, Russia and several Gulf economies. In 2026Q2 and Q3, supply reductions were concentrated in Saudi Arabia and Iraq, with higher output in the United States and some other producers providing only a limited offset. For 2026 as a whole, a sharp contraction in oil supply is projected for the Middle East, North Africa, Afghanistan, and Pakistan (MNA) region. The market deficit surged in 2026Q2 but moderated in 2026Q3, with a similar shortfall projected for 2026Q4, requiring further inventory drawdowns.

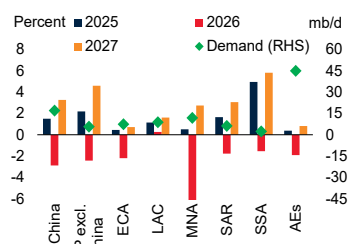
A. Oil demand



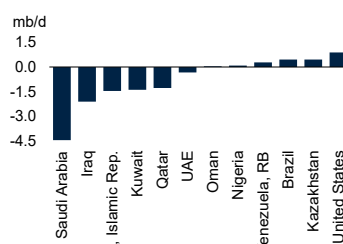
B. Oil demand reductions in EMEs in 2026Q2–Q3



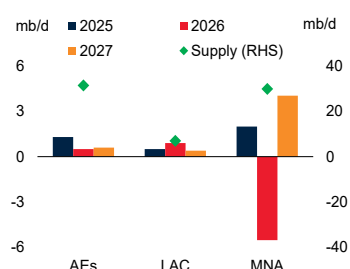
C. Change in oil demand by region



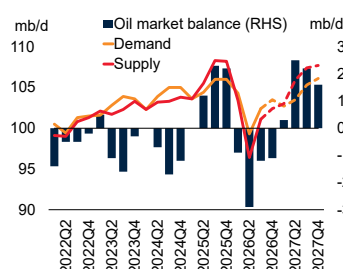
D. Change in oil supply relative to pre-conflict levels in select countries



E. Change in oil supply by region



F. Implied oil market balance



Sources: International Energy Agency (IEA); World Bank.

Note: AEs = advanced economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMEs = emerging market and developing economies; LAC = Latin America and the Caribbean; mb/d = million barrels per day; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RB = República Bolivariana de Venezuela; RHS = right-hand scale; SAR = South Asia; SSA = Sub-Saharan Africa; UAE = United Arab Emirates.

A–F. Data are from IEA's *Oil Market Report* (October 2026 edition).

A. Data for 2026Q4–2027Q4 are forecasts.

B. Quarterly data. Bars show the largest year-on-year reductions in oil demand averaged over 2026Q2 and Q3.

C. Bars show year-on-year changes in demand. Diamonds show demand for 2025.

D. Monthly data. Bars show the change in average oil supply from January–February 2026 to March–September 2026. The six largest increases and six largest decreases are shown.

E. Bars show year-on-year changes in supply. Diamonds show supply for 2025. Data for 2026 and 2027 are forecasts.

F. The implied oil market balance is the difference between supply and demand. Data for 2026Q4–2027Q4 are forecasts.

Supply losses have persistently exceeded the reduction in global oil demand since the onset of the Middle East conflict, with the deficit widening sharply in 2026Q2 to 2.9 mb/d but narrowing in the following quarter (figure 8.F). Accordingly, oil inventories have become the fulcrum on which oil markets have balanced. Although global observed oil inventories still total about 7.8 billion barrels, much is in transit or tied up operationally—for instance, to keep pipelines pressurized—and therefore is not readily usable. In this context, OECD member governments' inventories at end-September were the lowest in more than three decades, with the U.S. strategic reserves the lowest since 1982. Global oil markets have thus become increasingly vulnerable to further supply disruptions.

Outlook

After sharp swings in 2026Q3, the front-month Brent oil price is expected to remain elevated in the near term, averaging almost \$100/bbl in 2026Q4 and \$91/bbl in 2026 as a whole. Next year, the price is projected to recede gradually to an average of \$79/bbl, as the market moves into surplus, before declining to \$70/bbl in 2028 (figure 9.A; table 1). This projection assumes that the recent rebound in Middle Eastern crude shipments does not falter, keeping regional exports near pre-conflict levels through 2026Q4, with gradual further increases thereafter. Naval escorts, ship-to-ship transfers, untracked shipments, and near-full use of routes bypassing the Strait of Hormuz—including regional pipelines—support this process. The projection further assumes that Iranian oil exports remain diminished in 2027, while Russian crude oil output rebounds. In the Gulf, required repairs to damaged facilities are likely to delay a full return of refinery throughput to pre-conflict levels until 2027Q2.

Even as crude flows return, the normalization of the oil market is anticipated to be slow and potentially halting in the absence of a comprehensive resolution to the conflict. Regional oil-transport bottlenecks are expected to linger as limited tanker availability, shipowners' reluctance to transit high-risk routes, and continued reliance

on ship-to-ship transfers constrain shipments. Meanwhile, demand to replenish depleted inventories will support prices. Together, these factors are expected to slow the overall decline in oil prices, which may be volatile month-to-month and could be interrupted by intermittent escalations or concerns about further hostilities.

Global oil consumption is projected to contract by 2.6 mb/d (2.5 percent) in 2026—the third-largest annual decline on record after 2020 and 1980—before recovering in 2027 but still remaining 0.6 mb/d short of its 2025 level. East Asia and Pacific (EAP) and MNA account for much of the 2026 contraction and the incomplete recovery in 2027. In China, higher oil prices have compounded a structural decline in transport-fuel demand as electric cars and LNG-powered trucks rapidly replace conventional vehicles, permanently limiting the rebound. In MNA, damaged petrochemical facilities and broader industrial disruptions are weighing on consumption. Demand is expected to recover as infrastructure repair proceeds, but the slow restart of operations early in 2027 will keep full-year consumption subdued. By contrast, demand growth is expected to strengthen in EAP excluding China, South Asia (SAR), and SSA in 2027.

Global oil supply is projected to fall by 5.5 mb/d (5.2 percent) in 2026, before returning to near its 2025 level in 2027, at about 106 mb/d. Production is expected to increase in 2026Q4 before gaining momentum in 2027, as operational adjustments continue to support trade volumes and shut-in Gulf capacity returns. Oil output from the region, however, is projected to remain about 1.5 mb/d below its 2025 level in 2027, in part reflecting a slow start in 2027Q1. In 2027, oil production in Russia is expected to return gradually to its 2026Q2 level, following recent declines, while output in Argentina, Brazil, Canada, Guyana, and the United States is expected to increase by more than 1 mb/d (y/y). Supply is projected to expand further in 2028, as OPEC+ producers align closely with output quotas and production outside the group, including in the United Arab Emirates, continues to rise.

Recovering supply and seasonally weaker demand are expected to move the oil market from broadly balanced in 2027Q1 into surplus in 2027Q2. The excess supply is then projected to narrow in the second half of the year as demand strengthens. The prospective surplus is contingent on the availability of viable trade routes, limited long-term damage to production facilities in the Middle East, and continued supply growth outside the Middle East. With supply projected to exceed consumption by about 2 mb/d on average over the final three quarters of 2027, inventories are expected to rise by about 550 mb by year-end, reversing roughly 80 percent of the 2026 drawdown. That said, it is quite likely that aggregate desired inventories will exceed their levels prior to the Middle East conflict, given the scale of disruptions and inventory reliance this year.

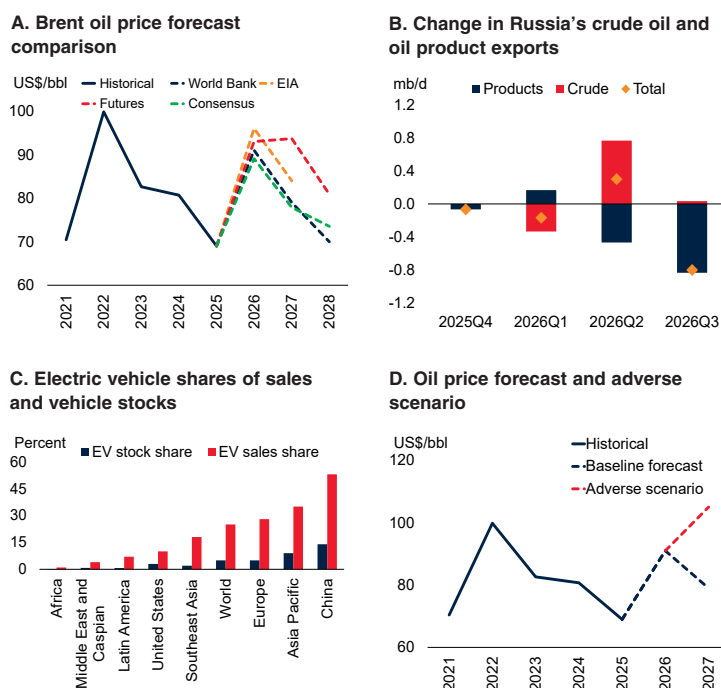
Global refinery throughput is projected to fall by 2.3 mb/d in 2026, recover in 2027, and rise further in 2028. The rebound is expected to come from three sources. In the Gulf, completion of repairs to damaged facilities is expected to restore throughput to pre-conflict levels. Refinery capacity is also assumed to recover in Russia, after it was reduced in recent months by drone strikes. In Asia, throughput is expected to increase as constraints on Middle Eastern crude availability diminish, new capacity comes on stream, and lower tanker freight costs support margins. By contrast, elevated utilization in the United States and Europe leaves limited scope for further increases in throughputs.

Risks

Near-term risks to the oil price forecast remain tilted to the upside, but downside risks become dominant later in the forecast horizon. Renewed conflict-driven oil supply losses and a more restrictive OPEC+ production policy could raise oil prices above the forecasts, particularly given depleted inventories. Conversely, a faster restoration of Gulf supply and more robust expansion of non-OPEC+ output than assumed could push prices below the baseline, as could

FIGURE 9 Oil market: Risks

Front-month Brent futures prices are projected to average \$91/bbl in 2026, before declining to \$79/bbl in 2027 and \$70/bbl in 2028. Near-term upside risks to this forecast include renewed conflict-driven oil supply losses in the Middle East, potentially compounded by continued weak output in Russia. These risks might lift crude oil prices to \$105/bbl in 2027 and exacerbate diesel price increases. Downside risks to the forecast include slower-than-projected global growth, which would weaken oil consumption and prices, higher oil output, and accelerated adoption of electric vehicles, given the substantial scope for increased EV sales in many regions.



Sources: Bloomberg; Consensus Forecasts; International Energy Agency (IEA); U.S. Energy Information Administration (EIA); World Bank.

Note: bbl = barrel; EV = electric vehicle; mb/d = million barrels per day.

A. Futures data as of October 14, 2026. Consensus data are from the September 2026 report. EIA data are from EIA's *Short-Term Energy Outlook* (October 2026 edition). Dashed lines indicate forecasts for 2026–28.

B. Monthly data averaged by quarter. Bars show quarter-on-quarter changes. Data are from the IEA's *Oil Market Report* (October 2026 edition).

C. EV data are from IEA's *Global EV Outlook* report. Data are for 2025.

D. Dashed blue line represents the baseline Brent crude oil forecast for 2026–27; the dashed red line represents the adverse scenario for 2027.

weaker-than-expected oil demand owing to lackluster global growth or an accelerated shift to EVs.

Upside risk: Renewed conflict-driven oil supply losses

The baseline assumes that the recent rebound in Middle Eastern crude shipments is sustained, with global oil production in 2027 returning close to 2025 levels. Intensifying hostilities could instead reverse recent gains in shipments through the

Strait of Hormuz. Further pipeline damage or sustained attacks on Red Sea shipping could deepen shortages caused by restricted Hormuz traffic. At the same time, continued attacks on Russian production facilities, refineries, or export terminals, or prolonged export restrictions, could curb Russian crude and oil product shipments. Product markets would be especially exposed, as this would deepen product shortages beyond the effects of the 0.8 mb/d decline in Russia's product exports in 2026Q3, and intensify diesel shortages while Gulf supplies remain constrained (figure 9.B). Moreover, with oil inventories already substantially depleted, even modest additional supply shortfalls could tighten markets abruptly and drive sharp increases in crude oil and oil product prices.

Upside risk: More restrictive OPEC+ production policy

OPEC+ may restore output more cautiously than assumed in the baseline to offset the anticipated downward pressure on prices, especially if demand disappoints. Producers could delay scheduled output increases, extend voluntary cuts, or tighten compliance with quotas. Such restraint would limit barrels available for commercial and strategic stock replenishment, reduce or postpone the projected surplus, and slow the decline in oil prices.

Upside risk: Deeper inventory drawdowns

Global inventories could decline more rapidly than projected if the recovery in global supplies is more drawn out than expected, or demand proves stronger. With global observed inventories about 500 mb below their February level and commercial buffers rapidly depleting, further widespread drawdowns could amplify the price response as prompt markets tighten, especially while Gulf exports remain constrained.

Downside risk: Durable resolution of the Middle East conflict

A durable diplomatic solution that restores safe passage through the Strait of Hormuz could rapidly boost crude oil supplies by releasing accumulated stocks and raising regional refinery

throughput once repairs are completed. Adding to the downward impetus on prices, reduced use of ship-to-ship transfers and longer voyage routes intended to reduce the risk of attack would improve shipping capacity and lower freight rates, while insurance costs would also fall. The surge in Iranian crude arrivals near Singapore after the June MoU—seven times the June volume during the first 20 days of July—shows how quickly pent-up supply could reach the market.

Downside risk: Higher-than-expected non-OPEC+ supply

Output in Argentina, Brazil, Canada, Guyana, and the United States is projected to rise by 1.5 mb/d in 2026 and a further 1 mb/d in 2027, a slowdown from average production growth in 2022-25. But faster growth than expected is possible, particularly if new oilfield developments in Argentina, Brazil, and Guyana come on stream earlier or ramp up faster than expected. U.S. production could also exceed expectations, supported by a recent uptick in rig count, stronger well productivity, lower development costs, and improved completion techniques. Following its exit from OPEC, and assuming smooth functioning of trade, the United Arab Emirates could also increase production to nearer its capacity, exceeding the baseline forecast.

Downside risk: Persistent demand weakness and slower growth

Adjustments by consumers, producers and governments to reduce oil consumption in response to the recent price and supply shocks may prove more durable than anticipated. In China alone, EVs displaced 1.5 mb/d of road-fuel demand in 2026Q2—nearly twice IEA's pre-conflict expectations—highlighting their potential to further curb demand in the future (figure 9.C). In many other regions, EV adoption is growing rapidly, albeit from lower levels. Faster electrification and wider efficiency gains would weaken the projected rebound in oil consumption and widen the surplus, depressing prices. More broadly, if stress in energy markets abates but other unforeseen headwinds slow global growth, then manufacturing, freight, petrochemical and

household fuel demand could weaken as well, causing prices to undershoot the forecast.

Adverse scenario for oil prices

In an adverse scenario for oil prices, a major escalation of hostilities in the Middle East could reduce production in the Gulf region by about 5 mb/d during the first half of 2027. Over the same period, continued frequent strikes on oil infrastructure could keep oil exports from Russia at their recent constrained levels. Concurrent disruptions in the Middle East and Russia would leave few alternatives to offset deepening supply losses, with global oil production about 100 mb/d over the first half of next year. The global oil market would remain in a sizable deficit, necessitating further draws on increasingly scarce inventories, before conditions revert toward the baseline assumptions starting in 2027Q3. Under these conditions, oil prices would surge anew, with the Brent price averaging \$105/bbl in 2027, an increase of 15 percent from 2026, and about 33 percent above the \$79/bbl baseline forecast (figure 9.D). For 2027 as a whole, global oil production could remain more than 4 percent lower than its 2025 level.

Natural gas

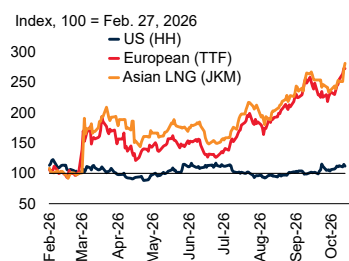
Recent developments

Natural gas markets in most regions tightened sharply in 2026Q3 as Middle East tensions re-escalated and the June U.S.–Iran MoU failed to produce a follow-on agreement. Concerns about prolonged Gulf supply disruptions, stronger Asian power-sector demand, and low European inventories drove up European natural gas and Asian LNG prices to more than double their pre-conflict levels by September, with prices continuing to increase in October (figure 10.A). Although LNG shipments via the Strait of Hormuz have started to increase in recent weeks, they remained at about 25 percent of pre-conflict levels in September. Before the recent resurgence, prices had plunged in June after the MoU was signed and backed up LNG cargoes exited the Gulf. In contrast, monthly U.S. natural gas prices were generally below February levels in 2026Q3,

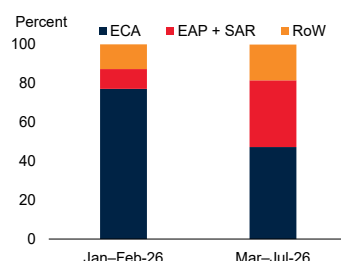
FIGURE 10 Natural gas markets

In mid-October 2026, European natural gas and Asian LNG prices were almost three times their pre-conflict levels, reflecting constraints on Gulf LNG exports resulting from the conflict in the Middle East. Amid increased competition for supplies, U.S. LNG cargoes have shifted from Europe to Asia this year. European inventories in October remained at the low end of their range over the past decade. Global gas consumption is projected to fall by about 1 percent in 2026, led by declines in the Middle East, Europe, and Asia Pacific, while production is expected to fall by 0.8 percent. Upside risks to the price forecast include intensified disruptions through Hormuz, stronger import demand in Asia, particularly China, and weaker European and Russian supplies. Rapid growth in U.S. LNG exports and a durable near-term resolution of the Middle East conflict are key downside risks.

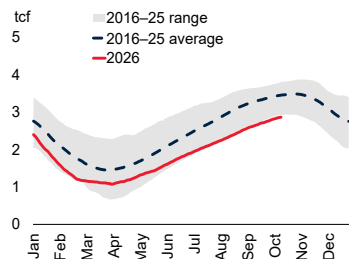
A. Natural gas prices



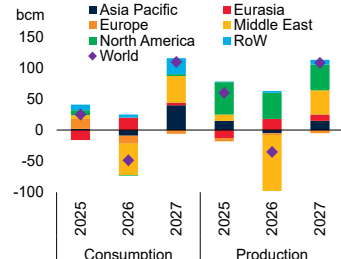
B. Destination of U.S. LNG exports



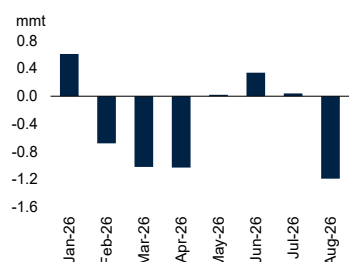
C. European inventories of natural gas



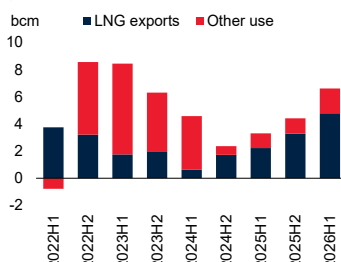
D. Changes in natural gas consumption and production



E. Change in Chinese LNG imports



F. Change in the use of U.S. natural gas production



owing to strong domestic production and ample inventories.

Global natural gas demand contracted in 2026H1 amid the rise in prices and pronounced LNG supply constraints, in contrast with earlier expectations. The decline was especially sharp in the Middle East, where demand from gas-intensive industries collapsed. Asian consumption fell by 1 percent (5 bcm) (y/y), led by a 2.4 percent (5.1 bcm) drop in China, amid mild weather, gas-to-coal switching in the power sector, and slower industrial production growth. In North America, U.S. consumption declined by about 1.5 percent (7 bcm) despite stable prices, as a mild winter in several regions more than offset stronger gas-fired power demand, owing in part to rising data-center power needs. European consumption edged down by 0.5 percent (about 1 bcm), reflecting substitution of gas by renewables and coal in power generation.

Natural gas supply developments diverged sharply across regions in 2026H1. Disruptions to Gulf exports reduced LNG loadings from Qatar and the United Arab Emirates by 35 bcm (y/y) during March–June. However, higher production outside the Gulf—supported by both new capacity and higher output from existing facilities—offset about three-quarters of this decline. In 2026H1, U.S. production increased by 4 percent, or 22 bcm (y/y), reflecting stronger LNG demand and rising associated gas production (that is, natural gas extracted alongside the production of crude oil) driven by higher oil prices. Natural gas production rose by almost 5 percent (13 bcm) (y/y) in Russia and by 3 percent (4 bcm) in China, where higher domestic output helped reduce reliance on imports.

Despite markedly lower Gulf exports, global LNG trade rose by about 1 percent (y/y) in 2026H1 as supply from other regions adjusted rapidly. U.S. loadings increased by 23 percent (y/y), supported by wide international-U.S. price differentials that kept U.S. export terminals operating near capacity. Since the Middle East conflict began, about 30 percent of U.S. exports have shifted from Europe to East Asia, partly to meet heatwave-driven power

Sources: Bloomberg; Gas Infrastructure Europe (AGSI+); Haver Analytics; International Energy Agency (IEA); U.S. Energy Information Administration (EIA); World Bank.

Note: bcm = billion cubic meters; EAP = East Asia and Pacific; ECA = Europe and Central Asia, including advanced economies in Europe; HH = Henry Hub, the U.S. natural gas benchmark; JKM = Japan-Korea Marker, the northeast Asian spot LNG benchmark; LNG = liquefied natural gas; mmt = million metric tons; RoW = rest of world; SAR = South Asia; tcf = trillion cubic feet; TTF = Title Transfer Facility, the European natural gas benchmark.

A. Daily data. Last observation is October 14, 2026.

B. Monthly data. Last observation is July 2026.

C. Daily data. Sample includes 20 EU countries and the United Kingdom. Last observation is October 14, 2026.

D. Bars show year-on-year changes. Regions are defined as in the IEA's *Gas Market Report*. Data for 2026 and 2027 are forecasts.

E. Monthly data. Bars show year-on-year changes. Last observation is August 2026.

F. Monthly data, averaged by half-year. Bars show year-on-year changes in the use of U.S. natural gas production, broken down into LNG exports and all other uses such as consumption, pipeline exports and injection into inventories. Last observation is June 2026.

demand in a region previously highly reliant on Gulf LNG (figure 10.B). This shift reduced European LNG imports by more than 10 percent (y/y) in 2026Q2 and heightened concerns about low EU inventories, which in mid-October remained at the bottom of their range over the past 10-years (figure 10.C).

Outlook

Natural gas markets are projected to remain tight. Gulf region LNG exports are expected to partially recover in 2027Q1, as the recent rebound in the number of LNG cargoes through the Strait of Hormuz continues, and damaged Emirati capacity is restored. That said, Qatar's damaged LNG trains are assumed to remain offline throughout the forecast period, keeping exports from the region below pre-conflict levels. Under these assumptions, annual average European prices are expected to surge by about 60 percent in 2026, as the shortfall in Middle East exports has prompted intense buyer competition. In 2027, European prices are expected to decline by 8 percent amid still-constrained supplies, before dropping by almost 30 percent in 2028, as markets normalize. In contrast, the U.S. benchmark is projected to remain unchanged in 2026 (y/y), and to increase by about 6 percent in 2027 and about 5 percent in 2028, mainly driven by growing external demand for LNG.

Global natural gas consumption is projected to decline by about 1 percent (50 bcm) in 2026 (figure 10.D). Demand is expected to decrease by about 8 percent (50 bcm) in the Middle East, reflecting disrupted industrial demand. In Europe and Asia Pacific, consumption is set to soften by 2.5 percent (13 bcm) and about 1 percent (9 bcm), respectively, as power-sector use declines. By contrast, Eurasian demand is projected to rise as residential consumption rebounds after mild weather in 2025. In 2027, global consumption is forecast to grow by 2.6 percent (110 bcm), led by increases of about 7 percent (43 bcm) in the Middle East as industrial production and gas processing normalize, and 4 percent (about 40 bcm) in Asia Pacific.

Global natural gas production is projected to decline by 0.8 percent (35 bcm) in 2026. A drop of more than 11 percent (90 bcm) in the Middle East—driven by damage to gas-processing and LNG facilities—is expected to be partly offset by increases of 3.2 percent (42 bcm) in North America and 2.1 percent (18 bcm) in Eurasia. Global production is forecast to increase by about 2.5 percent (110 bcm) in 2027, led by nearly a 5.5 percent (39 bcm) recovery in the Middle East, with the region's output expected to remain below its 2025 level because of reduced LNG export capacity in Qatar and delays to its North Field expansion. Production is also expected to rise by 3 percent (41 bcm) in North America, 2 percent (15 bcm) in Asia Pacific, and 1 percent (10 bcm) in Eurasia.

Risks

Risks to the projections for natural gas prices are tilted to the upside, especially for Europe and Asia. Upside risks include more extensive disruptions to LNG trade than assumed in the baseline, stronger Asian demand, weaker European and Russian supplies, and faster growth in electricity demand from data centers. Downside risks include faster-than-expected growth in LNG exports from the United States, and milder temperatures, possibly linked to El Niño, reducing demand for gas heating.

Upside risk: Slower recovery of Middle East LNG supplies

Further escalation of hostilities or intensification of shipping impediments through the Strait of Hormuz could keep LNG supplies below the baseline assumptions and push European and Asian prices above projections. Prolonged shipping disruptions or slower repairs to Emirati infrastructure could intensify competition for LNG cargoes and raise geopolitical risk premiums. Any shortage in Middle East LNG supplies could be magnified by simultaneous European efforts to replenish inventories and stronger Asian demand for power generation. Even after safe passage resumes, inspecting damaged facilities, restoring

feed-gas flows, and restarting liquefaction trains could delay the recovery of LNG exports relative to crude oil. Limited spare liquefaction capacity elsewhere would constrain replacement supplies during this period.

Upside risk: Stronger-than-expected Asian demand and LNG imports

A faster-than-expected rebound in gas demand in Asia, especially China, could reverse the recent sharp decline in Chinese LNG imports and tighten LNG markets significantly (figure 10.E). Such a rebound in demand could reflect either more robust economic activity or efforts to rebuild stocks. Stronger Asian demand would intensify competition with Europe for cargoes, lifting European and Asian prices. Recent adjustments in trade flows underscore this risk: 12–13 cargoes per month shifted from Europe to Asia in May and June.

Upside risk: Weaker European and Russian supplies

Declines in North Sea production, unexpected Norwegian outages, or damage to regional overland infrastructure could increase Europe's reliance on LNG and raise prices. An additional risk stems from the EU's planned phase-out of Russian LNG imports in January 2027 and most Russian pipeline imports in 2027Q3. With Russian gas having accounted for about 11 percent of the EU gas supply in 2026H1, failure to obtain replacement volumes would intensify competition for flexible LNG cargoes and raise prices in both Europe and Asia.

Upside risk: Faster growth in electricity demand from data centers

Rapid data-center expansion in the United States could tighten U.S. natural gas markets by raising demand for gas-fired electricity generation. Such greater power-sector use could also compete with rising LNG feedgas demand and reduce storage injections, pushing natural gas prices higher. Higher U.S. gas and liquefaction costs could also raise LNG prices in Europe and Asia.

Downside risk: Stronger U.S. production and LNG exports

Unexpectedly strong U.S. LNG supply growth could ease the pressure in other natural gas markets. Recent production gains, together with expanded LNG infrastructure have supported rising exports (figure 10.F). With international-U.S. gas price spreads remaining high, earlier start-ups at new facilities could increase Atlantic Basin cargoes and lower international prices, especially if demand in the United States lags domestic supply expansion. The effect on U.S. domestic prices would be more ambiguous, with higher feedgas demand counterbalancing stronger production.

Downside risk: Warmer weather under El Niño

The strong El Niño already underway could reduce heating demand in the 2026-27 northern hemisphere winter, especially in the northern United States, slowing storage withdrawals and weighing on U.S. prices. In northwestern Europe, El Niño-related mild, windy weather could curb heating needs and boost wind generation, reducing LNG demand and European and Asian prices. However, El Niño's effects are inherently uncertain in Europe—and unusually cold weather could emerge later in the year.

Coal

Recent developments

Australian thermal coal prices have been volatile around an upward trend since the current Middle East conflict began. Prices surged past \$150 per metric ton (mt) in September and remained elevated in October, as escalating tensions in the Gulf, which raised gas prices and increased demand for coal as a substitute, coincided with the introduction of mine-safety restrictions in China and increased uncertainty about supply from Indonesia, the largest exporter of thermal coal (figure 11.A). Earlier, prices had eased in June on expectations of de-escalation of the Middle East conflict, improved Australian supply, and weakening imports by China and India.

Global coal demand is projected to rise by 1.2 percent, or 103 million metric tons (mmt), in 2026, supported by gas-to-coal switching in the power sector, particularly in Asia (figure 11.B). China's consumption is expected to increase by 1 percent (46 mmt) to about 5,000 mmt—a notable pick-up after its coal demand flatlined in 2025. This increase has been driven by strong electricity demand, weak wind generation, rising LNG prices, and expanding coal-to-chemicals production. India's demand is on track to expand by 4.2 percent (54 mmt) to 1,350 mmt, reflecting solid growth in industrial and services activity, as well as strong power demand and weak hydropower output owing to heatwaves. By contrast, U.S. consumption is expected to fall by 7 percent (28 mmt), as the price and availability of natural gas and renewables discourage growth of coal-fired power generation. In the European Union (EU), high natural gas prices are expected to slow, but not reverse, the structural decline in coal demand.

Global coal supply is projected to contract by 0.7 percent (66 mmt) in 2026, led by a 1.9 percent (91 mmt) decline in China amid mine closures (figure 11.B). Indonesian production is projected to fall by 1.5 percent (12 mmt) following a reduction in the government's output target. Australian supply is expected to be lower this year, reflecting early weather-related export disruptions, while U.S. production is on track to contract by about 3 percent (15 mmt). These declines are expected to be partly offset by an increase in India of 1.2 percent (13 mmt), taking output to an annual record of 1,090 mmt.

Outlook

Australian thermal coal prices are projected to average \$135/mt in 2026, 25 percent above their 2025 level, before declining by 4 percent in 2027 and a further 4 percent in 2028. The projection assumes that regional LNG exports will partially recover in 2027Q1, as the recent rebound in the number of cargoes through the Strait of Hormuz continues, though without full recovery of supplies to pre-conflict levels in the forecast period. The resulting reduction in natural gas prices in 2027

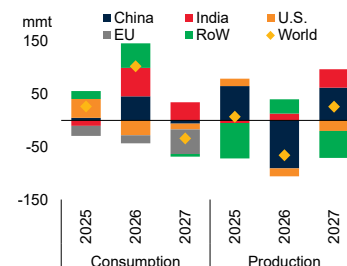
FIGURE 11 Coal markets

Australian thermal coal prices rose above \$150/mt in September and remained elevated in October as re-escalating tensions in the Middle East conflict, Chinese mine closures, strong Asian electricity demand, and uncertainty over Indonesian supply tightened the market. Global coal consumption is projected to rise by 1.2 percent in 2026, led by China and India, with production projected to fall by 0.7 percent. Prices are expected to decline in 2027 and 2028 as LNG supply recovers and alternative power generation expands to displace coal. Upside risks to prices include prolonged Gulf LNG export disruptions and sharper declines in Australian and Indonesian exports than forecast. Downside risks include faster growth in renewable energy generation in China and India and weaker coal demand and imports in China.

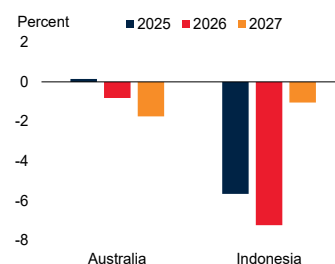
A. Coal price



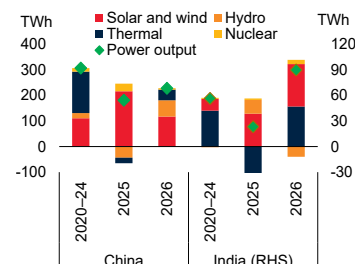
B. Changes in coal consumption and production



C. Changes in Australia and Indonesia coal exports



D. Changes in power generation by source in China and India



Sources: Australian Government, Department of Industry, Science and Resources; Bloomberg; International Energy Agency (IEA); National Bureau of Statistics of China; National Institution for Transforming India; World Bank.

Note: mmt = million metric tons; RHS = right-hand scale; RoW = rest of world; TWh = terawatt hour.

A. Daily data for Australian coal prices. Last observation is October 14, 2026.

B. Data are from the IEA's *Coal Mid-Year Update 2026* report. Data for 2026 and 2027 are forecasts. Yellow diamonds represent global changes in coal consumption and production.

C. Bars show annual percent changes in Australia and Indonesia thermal coal exports. Data for 2026 and 2027 are forecasts.

D. Monthly data. Bars show year-on-year changes in January–August power output by source; 2020–24 bars show average of the changes in that period. Green diamonds represent year-on-year changes in total power output. Thermal includes coal, natural gas, and oil. For India, hydro includes small hydro and biopower.

and 2028 is expected to reduce gas-to-coal switching, while the continued expansion of alternative, mainly renewable, power sources increasingly limits coal demand.

Global coal consumption is projected to edge down by 0.4 percent to about 8,900 mmt in 2027, with the decline mainly driven by Europe. In China, lower coal use in the power and

industrial sectors is expected to outweigh growth in coal-to-chemicals production. ASEAN economies and India are likely to remain the principal sources of demand growth, supported by rising power consumption and industrial activity. Coal use in the European Union and the United States is expected to continue its decline.

Global coal production is projected to rise modestly by about 26 mmt (0.3 percent) in 2027 driven by expansion in China, as curbs arising from mine-safety restrictions introduced in 2026 ease—and in India. Indonesia's production is expected to decline further next year. Coal output is also expected to fall in Australia, Russia, the United States, and especially the European Union, as coal phase-outs advance. Global thermal coal trade is projected to fall back to about 2025 levels, mainly reflecting weaker Chinese demand. Imports to India and exports from Australia and South Africa are expected to remain broadly stable, while shipments from Colombia, Indonesia, and Russia diminish.

Risks

Risks to the forecast for coal prices are tilted to the upside. A slower-than-anticipated recovery of LNG shipments through Hormuz, weak Australian and Indonesian exports, and more extreme weather than assumed in the baseline pose upside risks. Downside risks include a faster-than-assumed recovery of LNG exports from the Gulf, more rapid growth of renewables, and weaker Chinese demand.

Upside risk: Weaker LNG supply

Slower-than-assumed restoration of LNG flows through Hormuz would keep gas prices elevated in many regions, prolong gas-to-coal switching, and could thereby lift coal prices above the forecasts. Persistently expensive gas would strengthen coal's competitiveness in power generation, slowing the projected decline in coal demand in 2027, especially in import-dependent Asian economies. Further escalation of hostilities, tighter shipping restrictions, or delays in repairing damaged LNG infrastructure could prolong these pressures. The conflict-related upside risks to natural gas prices discussed above would therefore also support

stronger-than-expected coal demand and increase the likelihood of coal prices exceeding projections.

Upside risk: Tighter seaborne coal supply

Indonesian and Australian exports could contract more than projected (figure 11.C). Indonesian shipments remain constrained by the government's output target for 2026 and could fall further if the target is reduced or if other policy changes restrict exports. Australian exports are vulnerable to cyclones, mine outages, and transport disruptions. Coal markets could tighten especially if disruptions in these major producers occur simultaneously.

Upside risk: Extreme weather

Prolonged heatwaves could raise cooling demand in China, India, and Southeast Asia, while drought or weak winds could increase coal demand by reducing hydro or wind generation. Utilities could respond by increasing coal-fired generation and imports. The price effect would be amplified if stronger Asian demand coincided with weather-related production disruptions among exporters.

Downside risk: Faster renewables expansion in China and India

Solar and wind power generation are increasing rapidly in many EMDEs, including China and India (figure 11.D). Faster capacity additions, faster growth in power output, improved grid integration, and lower costs of power storage could see renewables displace more coal-fired generation than anticipated. This would reduce growth in coal consumption and imports, despite rising electricity demand.

Downside risk: Weaker demand and imports in China

Downside surprises in electricity or industrial demand in China, or a faster recovery in domestic coal output, would reduce the country's need for inventory replenishment and its demand for imports of seaborne coal. Given China's importance in the seaborne thermal coal trade, a larger-than-expected fall in purchases could push Australian prices below forecast levels.

Agriculture

Food commodity prices are on track to rise by 10 percent in 2026 and a further 7 percent in 2027 as conflict hinders grain and oilseed shipments through the Black Sea and weather patterns stemming from a very strong El Niño curtail some harvests. The projected increase follows a 21 percent decline between 2022 and 2025. Rice production is expected to decline for the first time in a decade as a strong El Niño damages Asian harvests, while palm oil production in Southeast Asia is likewise expected to be curbed by El Niño-related weather. Conflict-driven trade disruptions and hot, dry weather conditions in the European Union and elsewhere are expected to raise wheat prices sharply in 2026 and 2027. Beverage prices, meanwhile, are expected to decline by 24 percent in 2026, reflecting increased production of coffee and cocoa following supply challenges in the previous growing season, before edging up by 3 percent in 2027. The outlook assumes that Black Sea shipping disruptions will ease in 2027 and that agricultural input costs will decline. If conflict intensifies and weather-related losses exceed expectations, food and grain prices could be 12 percent and 20 percent above the 2027 baseline, respectively. Additional food export restrictions or policy shifts favoring biofuels could also push food commodity prices above projections.

Food

Recent developments

The World Bank Group's food commodity price index rose by 1 percent in 2026Q3 (q/q), following steady increases in the first half of the year, and remained elevated in October, at 12 percent above its level a year earlier (figure 12.A). Upward pressure on food prices stemmed from escalating attacks on shipping infrastructure in the Black Sea, persistent supply disruptions in the Middle East, and drier weather in Australia, South Asia, and Southeast Asia—early effects of what is likely to be a very strong El Niño (box 1). Robust biofuel demand in North America, reflecting elevated gasoline and diesel prices and an expanded biofuel mandate in the United States, added to upward price pressures.

Grain prices rose by 9 percent in 2026Q3 (q/q), reaching a level 25 percent higher than a year earlier (figure 12.B). Wheat prices jumped by 13 percent, to a three-and-a-half-year high, 40 percent above year-ago levels (figure 12.C). The increase reflected dry weather in major exporting countries and escalating attacks on vessels and ports transporting wheat through the Black Sea. Ukraine's wheat exports in August 2026 were nearly 70 percent lower than a year earlier. Low water levels in the Danube River constrained another important alternative shipping route for Ukrainian grain. Maize prices rose by 8 percent

(q/q) and 18 percent (y/y) to a three-year high, supported by weather concerns in the United States and disruptions to grain flows in the Black Sea. Rice prices rose by 6 percent (q/q) in 2026Q3 and stood 24 percent above their level a year earlier amid El Niño-related weather concerns in South and Southeast Asia.

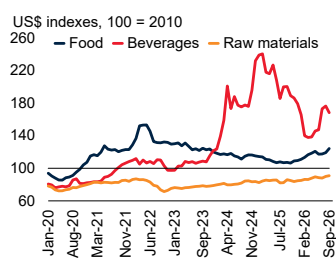
The oils and meals price index edged down in 2026Q3 (q/q) and eased further in October, but remained 17 percent above its year-earlier level (figure 12.D). Soybean oil prices fell by 5 percent in the quarter but were still a third higher than a year earlier, supported by surging biofuel production in North America. This partly reflected the introduction of record-high biofuel volume requirements in the U.S. fuel supply earlier in the year, as well as elevated crude oil prices. Palm oil prices edged down (q/q) but were still 13 percent higher (y/y), reflecting concerns about threats to production in Indonesia and Malaysia from El Niño. Additional support came from Indonesia's raising of the mandatory palm oil share in biodiesel blends from 40 to 50 percent. Soybean prices were buoyed by increased purchases by China from the United States.

The price index for other foods, comprising sugar, meat, and fruits, edged down in 2026Q3 to a level slightly lower than a year earlier, reflecting offsetting price movements across index components. Sugar prices rose by 15 percent (q/q) and 4 percent (y/y), and continued to increase in

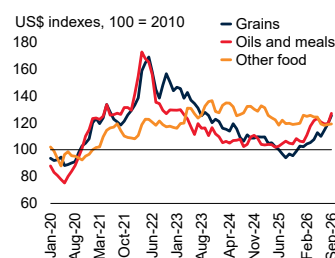
FIGURE 12 Agricultural prices

Agricultural commodity prices strengthened in 2026Q3 (q/q), led by a surge in beverage prices as a strong El Niño emerged, adversely affecting expected supplies. Food commodity markets continued to tighten as supply disruptions persisted in the Middle East and Black Sea region. Grain prices increased by 9 percent (q/q), with maize, wheat, and rice prices all rising. Expanded biofuel mandates in several countries and Black Sea hostilities kept most oils and meals prices on a rising trajectory.

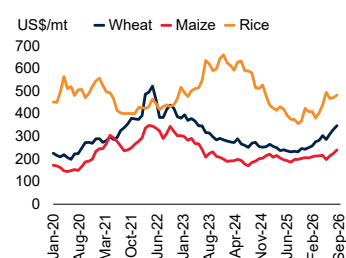
A. Agricultural price indexes



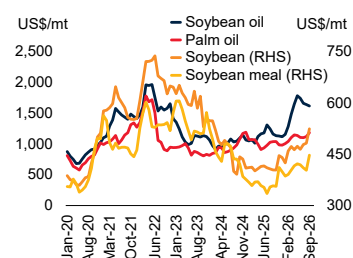
B. Food price indexes



C. Grain prices



D. Oils and meals prices



Sources: Bloomberg; S&P Global; World Bank.

Note: mt = metric tons; RHS = right-hand scale. Monthly data. Last observation is September 2026.

October, owing to El Niño-related concerns in India and Thailand, and to production disruptions in Brazil from El Niño-related heavy rainfall. By contrast, orange prices fell by 13 percent (q/q) and 43 percent (y/y) in 2026Q3 as global exports recovered from major crop disease challenges during the previous season. Beef prices dropped by 9 percent (q/q), partly reflecting a temporary expansion of the U.S. tariff-rate quota that lowered duties on additional import volumes. Nonetheless, prices remained 5 percent higher (y/y) as U.S. cattle inventories fell to historically low levels amid continued drought conditions in producing regions and rising costs.

Outlook

The food price index is projected to rise by 10 percent in 2026, followed by a further increase of 7 percent in 2027, before retreating by 5 percent in 2028 as various supply pressures subside (table

1). The forecasts for 2026 and 2027 are 8 and 14 percent higher, respectively, than those in April. These revisions reflect the geopolitical and weather-related developments and recent developments discussed above.

The current El Niño is likely to remain strong to very strong through January–March 2027, according to the U.S. National Oceanic and Atmospheric Administration. The agency also estimates an 83 percent chance that it will become the strongest El Niño since 1950 (when comparable records begin) during October–December 2026 (figure 13.A).² El Niño typically brings drier conditions to parts of Australia, Central America, the Sahel, South and Southeast Asia, and Southern Africa, and wetter conditions to parts of Central Asia, China, and the southern United States. Its effects on East Africa vary by location and season.

Historically, the prices of food and beverage commodities have increased materially during El Niño episodes, as extreme weather conditions hinder production (figure 13.B). In the current episode, notable effects are expected in cocoa, palm oil, rice, and sugar markets, although annual average prices are forecast to increase significantly only for palm oil and rice. For cocoa and sugar, the effects of El Niño are outweighed by the prior easing of supply shocks. Nonetheless, cocoa and sugar price forecasts have been revised substantially higher since April, as El Niño-related conditions have disrupted the planting and harvesting of sugarcane and threaten to lower cocoa pod counts and yields. El Niño effects are also expected to contribute to wheat supply challenges, albeit to a lesser degree than conflict-driven factors.

Grain prices are forecast to rise by 14 percent in 2026 and by a further 9 percent in 2027. Global grain supplies are expected to decline in 2026–27 for the first time in four years, with maize and wheat stocks-to-use ratios (measuring inventories relative to consumption) edging down (figures

² A very strong El Niño is one in which the three-month Relative Oceanic Niño Index (RONI) reaches 2.0°C or higher, according to the U.S. National Oceanic and Atmospheric Administration (NOAA). The index stood at 1.7°C for July–September 2026, the latest available three-month period.

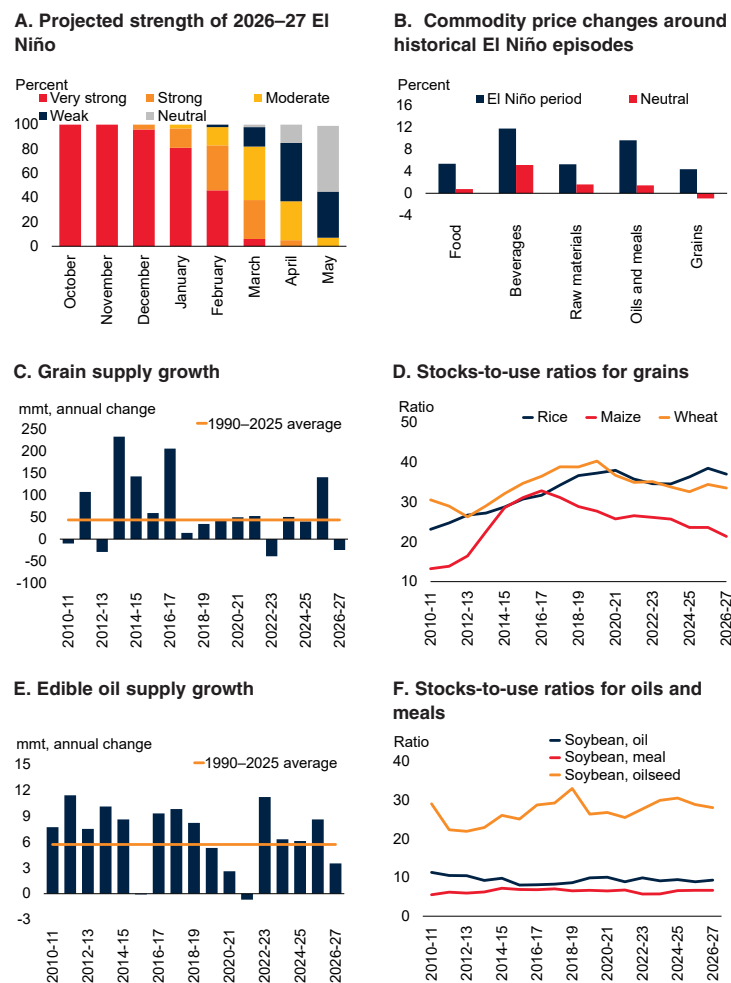
13.C and 13.D). Even so, total grain supplies (production and beginning stocks combined) in 2026–27 are projected to be the second largest on record and about 3 percent higher than two years earlier, which should limit price increases compared with past episodes of grain market stress.

Among grains, price pressures are most pronounced for wheat, amid several headwinds to production and trade. Wheat prices are projected to jump by 28 percent in 2026 and 14 percent in 2027, before easing by 11 percent in 2028. Global wheat output is expected to contract by 3 percent in 2026–27 with reduced harvests in several major producing countries. Production in the United States is expected to fall by 23 percent, to a 55-year low, owing to drought, extreme heat, and continued long-term decline in planted acreage as growers switch to more profitable crops. Harvests in Argentina and Australia are projected to decline by 23–25 percent, reflecting expectations of below-average rainfall in Australia related to El Niño and a return to more typical yields in Argentina. Wheat production is also forecast to fall by 8 percent in the European Union amid sustained hot and dry conditions, and by 12 percent in Canada, where above-average rainfall and lingering cold reduced spring wheat plantings. Wheat exports from Ukraine are projected to fall by 11 percent in 2026–27, a second consecutive annual decline. Exports from the Russian Federation are also expected to drop by 8 percent in 2026–27, reflecting the recently heightened hostilities. In sum, production declines and export disruptions are expected to reduce global wheat exports by 7 percent in 2026–27, with shipments falling across all nine leading exporters.

Maize prices are projected to rise by 10 percent in 2026 and 5 percent in 2027, before declining by 10 percent in 2028. The increases reflect an anticipated 3 percent decline in global production in 2026–27. The forecast assumes some easing in 2027 of the constraints on Black Sea trade created this year by attacks on grain shipments and port infrastructure. Projected output gains of 11 percent in Russia and 8 percent in Ukraine in 2026–27 are expected to partly offset harvest

FIGURE 13 Supply conditions for grains and edible oils

Strong El Niño conditions have emerged and are expected to intensify in late 2026 and early 2027. El Niño events are historically associated with higher prices of tropical agricultural commodities. Global grain supplies are expected to decline in 2026–27 for the first time in four years, causing maize and wheat inventories to fall relative to consumption. By contrast, global edible oil supplies are expected to grow at or above trend for a fifth consecutive year, keeping stocks-to-use ratios for oils and meals broadly stable.



Sources: National Oceanic and Atmospheric Administration (NOAA); U.S. Department of Agriculture; World Bank.

Note: mmt = million metric tons. Year spans indicate crop seasons. Data updated as of October 9, 2026.

A. Bars show the chance of El Niño (red bars) and ENSO-neutral (gray bars), provided for 8 upcoming, overlapping 3-month seasons (for example October = September, October, November). The color shading within the bars indicates the chances of different categories of El Niño: neutral ($-0.5^{\circ}\text{C} \leq \text{Index} < 0.5^{\circ}\text{C}$), weak ($0.5^{\circ}\text{C} \leq \text{Index} < 1.0^{\circ}\text{C}$), moderate ($1.0^{\circ}\text{C} \leq \text{Index} < 1.5^{\circ}\text{C}$), strong ($1.5^{\circ}\text{C} \leq \text{Index} < 2.0^{\circ}\text{C}$), and very strong ($\text{Index} \geq 2.0^{\circ}\text{C}$). Data issued in October 2026.

B. Six-month lagged year-on-year price changes in percent based on El Niño and neutral years between 1970 and 2025.

C.D. Supply is the sum of beginning stocks and production and excludes imports.

C. Grains include barley, maize, oats, rice, rye, sorghum, and wheat.

D.F. Stocks-to-use ratio is the ratio of end-season stocks to domestic annual consumption.

E. Edible oils include coconut, cottonseed, palm, palm kernel, peanut, rapeseed, soybean, and sunflower seed oil.

declines in Argentina, Brazil, the European Union (EU), and the United States. Production in the EU is set to fall by 20 percent, to the lowest level in nearly two decades, reflecting persistent summer heat and drought conditions that reduced both acreage and yields.

Rice prices are projected to rise by 10 percent in 2026 and a further 12 percent in 2027, before declining by 6 percent in 2028. The increases reflect an expected 2 percent decline in global production in 2026–27, the first annual decline in a decade, as El Niño weighs on harvests in major Asian exporters. The forecast assumes that no major exporter will impose export restrictions in response to production declines, as occurred during the 2023–24 El Niño, when such measures contributed to sharp spikes in rice prices. The projected increases in 2026 and 2027 would be the largest since 2012, apart from those in 2020, when COVID-19 disrupted supplies, and in 2023, when export restrictions proliferated.

The oils and meals price index is projected to rise by 17 percent in 2026 and 8 percent in 2027, reflecting overlapping pressures: from the Middle East conflict, which has kept crude oil prices and biofuel margins elevated; from attacks on Black Sea ports and shipping that have been curbing oilseed exports; and from the prospective effects of El Niño on the production of tropical oils. These increases are tempered by resilient growth in global edible oil supply, with stocks-to-use ratios holding steady (figures 13.E and 13.F). The index is expected to decline by 6 percent in 2028 as supply disruptions ease.

Soybean prices are anticipated to rise by 18 percent in 2026 and 5 percent in 2027, as strong biofuel demand outweighs continued production growth, before falling 5 percent in 2028. Expanded acreage and trend yield growth underpin a projected 2 percent increase in global output in 2026–27, a sixth consecutive record. However, consumption is projected to grow even faster, implying the global stocks-to-use ratio will decline for a second straight year. U.S. biofuel use is expected to exceed half of domestic soybean oil consumption for the first time, supporting a surge

in soybean oil prices of 39 percent in 2026 and 11 percent in 2027, before retreating 9 percent in 2028. Palm oil prices are expected to gain 14 percent in 2026 and 10 percent in 2027, with El Niño-related weather curbing production in Southeast Asia. Prices are then projected to decline by 9 percent in 2028 as production recovers. Soybean meal prices are forecast to jump by 18 percent in 2026 and 10 percent in 2027 on stronger global demand driven by rallying feed grain prices, before stabilizing in 2028.

The price index for other food commodities is projected to remain broadly stable in 2026, rising by 5 percent in 2027 and edging down in 2028. Beef prices are set to increase by 10 percent in 2026 and 4 percent in 2027, reflecting a projected 4 percent decline in U.S. beef production in 2026, followed by only a modest recovery next year. Although they have recently risen markedly on a monthly basis, annual average sugar prices are on track to be little changed in 2026, with global supply and demand broadly balanced. In 2027, sugar prices are forecast to edge up as El Niño-related production shortfalls in some major exporters and wet-weather harvest delays in others push the market into deficit.

Risks

Risks to the food commodity price outlook remain tilted to the upside. El Niño's effects on production could prove more severe than anticipated, adding to upward price pressures. Prolonged hostilities in the Black Sea could further disrupt future grain shipments, and new trade restrictions could push prices above current forecasts. Intensified supply disruptions from the Middle East conflict could raise energy prices above forecast and further boost biofuel demand.

Upside risk: Stronger-than-expected local weather impacts of El Niño

Stronger-than-expected drought and heat stress in major producing regions could curtail production, particularly of rice, edible oils, and sugar, raising their prices above the forecasts (box 1). Similarly, stronger-than-expected El Niño-induced heavy rains and flooding could damage crops and disrupt

fieldwork in areas such as Brazil, East Africa, and the southern United States, adding further upward pressure on food prices. The effect on prices will depend on the location and scale of specific events arising from the interaction of El Niño with local weather conditions. It will also depend on prevailing commodity-specific inventory levels relative to consumption and the ability of consumers to substitute across commodities.

Upside risk: Prolonged disruptions to Black Sea shipments

The baseline price forecasts assume that disruptions to Black Sea shipments will persist through 2026Q4 but ease materially in 2027, given the potential for alternative export routes to become available and for arrangements to protect much-needed grain shipments, akin to the 2022–23 Black Sea Grain Initiative. If attacks on ports and grain infrastructure instead continue into 2027 at their recent intensity, and adequate alternative routes are not available, exports from Russia and Ukraine, which together account for one-third of global wheat exports and half of sunflower oil exports, could face prolonged disruption. In that case, it would logistically become extremely challenging to transport the region's large grain and oilseed harvests expected in 2026–27, and grain prices could substantially exceed the forecasts (figure 14.A).

Upside risk: Export restrictions

Given the heightened extreme weather risks linked to El Niño, governments may become more inclined to introduce food export restrictions intended to insulate domestic consumers from cost pressures. Historically, however, such measures have often tightened supplies in international markets, amplified volatility, and raised global prices further. During the 2010–11 food price spike, for example, such measures are estimated to have accounted for 40 percent of the rise in world wheat prices and one-quarter of the rise in world maize prices (figure 14.B; Ha, Kose, and Ohnsorge 2019). More recently, India's July 2023 ban on non-basmati rice exports, in response to El Niño-related yield concerns, led to a 35 percent increase in world rice prices (Nes, Schaefer, and Yu

2025). Although El Niño-triggered trade restrictions have not been significantly imposed so far, a renewed wave of export restrictions could push food prices above forecasts, especially commodities that are thinly traded.

Upside risk: Higher-than-expected energy and fertilizer input costs

The baseline commodity price forecasts imply meaningful decreases in agricultural input costs next year, in the form of lower energy and fertilizer prices (figure 14.C). Among other factors, this reflects assumptions that crude oil exports from the Middle East approach pre-conflict levels, that global LNG supplies gradually improve, and that Russia lifts its restrictions on oil product exports. If conflicts instead intensify energy supply challenges, agricultural input costs could exceed expectations, with higher production costs passed on to food prices. Should higher feedstock prices and renewed constraints on exports also push up fertilizer prices, farmers could cut application rates, thus lowering crop yields, reducing future supplies, and adding to food price pressures.

Upside risk: Higher biofuel demand

Elevated crude oil prices and expanded biofuel mandates, especially in Brazil, Indonesia, and the United States, have contributed to increased biofuel production and higher prices for edible oils, sugar, and maize (figure 14.D). Further fuel and crude oil price increases relative to feedstock costs could widen biofuel margins and lift food commodity prices above projections. On the other hand, lower-than-expected fuel and crude oil prices, for instance because of a swifter-than-anticipated recovery in global supplies, could weaken feedstock demand and prices. Changes to blending mandates and their enforcement could also shift demand in either direction. Over the longer term, greater investment in nonfood feedstocks could reduce biofuel-linked demand for food-based feedstocks, dampening a recurrent source of price volatility.

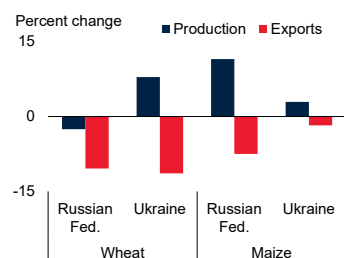
Adverse scenario for food commodity prices

In an adverse scenario for food prices, conflict-driven disruptions to energy and food

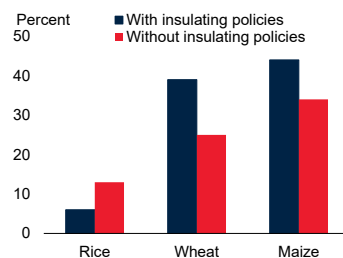
FIGURE 14 Risks to agricultural price projections

The price forecast assumes Black Sea shipment disruptions will ease somewhat in 2027. If they persist, however, food commodity prices could rise well above current forecasts. Should such disruptions be exacerbated by trade restrictions and price controls, prices could climb even higher. Higher-than-expected energy and fertilizer prices could also push food commodity prices above forecasts, including through stronger demand for biofuel feedstocks. In an adverse scenario involving prolonged conflict-related disruptions to energy and food exports and stronger-than-anticipated El Niño effects, food commodity prices could exceed the baseline forecast by 12 percent in 2027, surpassing their 2022 level, mainly owing to sharply higher grain prices.

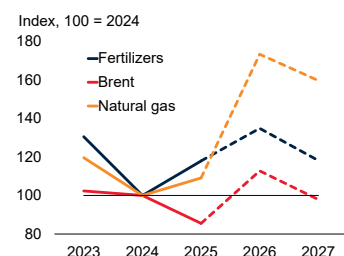
A. Growth of grain production and exports, 2026–27



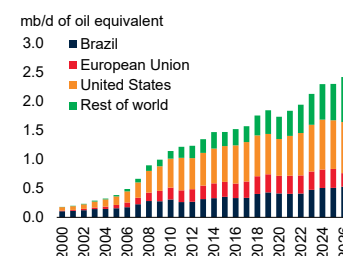
B. Estimated effect of price controls and trade restrictions on grain prices, 2010-11



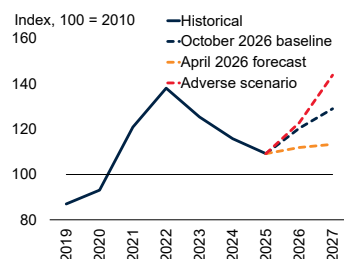
C. Agricultural input costs



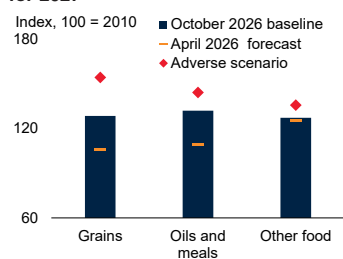
D. Biofuel production



E. Food price baseline forecasts, revisions, and scenarios



F. Food group baseline price forecasts, revisions, and scenarios for 2027



Sources: Ha, Kose, and Ohnsorge (2019); Organisation for Economic Co-operation and Development (OECD); Statistical Review of World Energy, Energy Institute; U.S. Department of Agriculture; World Bank.

A. Data for 2026–27 from USDA.

B. Insulating policies refer to domestic price controls and trade restrictions intended to shield domestic markets from changes in world prices. Estimates are from Ha, Kose, and Ohnsorge (2019).

C. Dashed lines indicate forecasts.

D. mb/d = million barrels per day. Historical data on biofuel production from 2000–25 are from *BP Statistical Review*. Data for 2026 are projected using separate individual growth rates for biodiesel and ethanol production from the *OECD-FAO Agricultural Outlook 2026–2035*.

E, F. The baseline assumes Black Sea disruptions persist through 2026Q4, El Niño has an average effect for episodes of its strength, Hormuz flows return to near pre-conflict levels in 2027. The adverse scenario assumes the Middle East and Black Sea disruptions persist through 2027H1 and El Niño's effects are at the upper end of historical estimates.

E. Dashed lines indicate forecasts for 2026–27.

F. Bars show the World Bank Group's Food sub-group indexes forecasts for 2027 based on the October baseline projections. Orange markers show the indexes forecasts for 2027 based on April 2026 edition of the *Commodity Markets Outlook*. Red diamonds show estimated projections under the 'Adverse scenario'.

markets are much more extensive than assumed in the baseline, while the effects of El Niño on food production are more pronounced. Specifically, as discussed in the energy section, the scenario assumes that an intensification of the Middle East conflict sharply curtails oil production in the first half of 2027, and that Russia's oil exports also remain limited at recent levels. The resulting sharp increases in energy prices next year both raise agricultural input costs broadly and stoke biofuel demand, compounding price increases for biofuel feedstocks such as maize, sugar, and soybean oil. In addition, hostilities in the Black Sea would substantially curb maize and wheat exports from Russia and Ukraine in the first half of 2027, on a scale comparable to grain export disruptions in 2022 (prior to the Black Sea Grain Initiative) and 2010-11. Finally, in the remainder of 2026 and 2027, El Niño raises prices of tropical commodities by more than past episodes would suggest.

The combined effect of these overlapping shocks would raise food commodity prices in 2027 by an additional 12 percent, relative to the baseline (figure 14.E). The effect would be largest on grain prices, which would be 20 percent above the baseline forecast in 2027, while oils and meals would be 9 percent greater and other foods 7 percent higher (figure 14.F). These increases would come on top of a baseline that has already been revised up substantially: the 2027 forecasts for grains and for oils and meals are 21 percent higher than in the April 2026 *Commodity Markets Outlook*.

Implications for food price inflation and food security

Median year-on-year food inflation in EMDEs, measured in domestic currency, firmed to 3.9 percent in 2026Q3 from 3.5 percent in the previous quarter. From a regional perspective, the Middle East, North Africa, Afghanistan, and Pakistan recorded the highest rate of regional median food inflation, at 7.2 percent, up from 4.9 percent in 2026Q2 and well above the region's median headline inflation of 3.3 percent (figure 15.A). Within the region, food inflation reached 129 percent in the Islamic Republic of Iran, 16

percent in Libya, and 13 percent in Lebanon, reflecting conflict-related disruptions, currency depreciation, and higher commodity prices, among other factors. Year-on-year food inflation also rose notably in 2026Q3 in South Asia and Sub-Saharan Africa, to 5.8 and 3.9 percent, respectively. South Asia's rate exceeded its 2010–19 averages of 5.6 percent, while Sub-Saharan Africa's remained below its corresponding average of 5.9 percent. Projected increases in grain and vegetable oil prices in 2026 and 2027 are likely to intensify domestic food inflation pressures.

The number of people experiencing severe food insecurity worldwide fell to about 779 million in 2025 from 803 million in 2024 and 837 million in 2021 (figure 15.B). The 21 percent decline in global food commodity prices between 2022 and 2025 likely contributed to these gains. Even so, severe food insecurity affected 9.5 percent of the global population in 2025, well above the 8.1 percent average in the five years before COVID-19. With food prices forecast to rise by a cumulative 18 percent in 2026–27 amid overlapping weather, logistics, and conflict shocks, this tailwind for the fight against hunger appears set to become a headwind. These challenges are compounded by surging energy prices, which strain household budgets and further erode food affordability.

Beverages

Recent developments

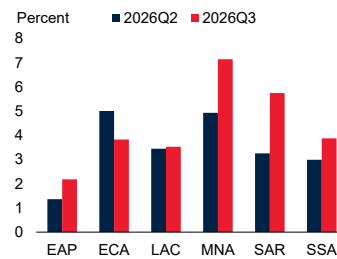
The World Bank Group's beverage price index firmed in the first half of October, following a 20 percent surge in 2026Q3 (q/q), although it remained 12 percent lower than a year earlier. El Niño-related supply concerns heightened expectations of tighter coffee and cocoa supplies, pushing prices higher. Tea prices, in contrast, remained relatively stable.

Coffee prices rebounded in 2026Q3 following two consecutive quarterly declines (figure 16.A). Arabica prices rose by 10 percent in the quarter but remained 4 percent lower than a year earlier. The recent price increase reflects excessive rainfall in Brazil (the world's largest coffee producer),

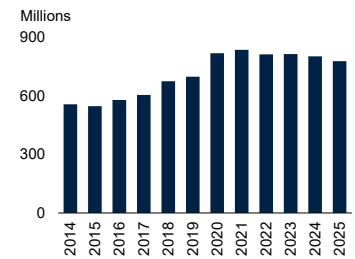
FIGURE 15 Food price inflation and food insecurity

Domestic food inflation in EMDEs increased in 2026Q3, particularly in the Middle East, North Africa, Afghanistan and Pakistan, South Asia, and Sub-Saharan Africa regions, and it could rise further, particularly given the forecast increases in the prices of grains and edible oils. The number of people experiencing severe food insecurity globally declined slightly in 2025. However, food insecurity remains more prevalent than in the late 2010s, and renewed food price increases anticipated in 2026–27 could reverse recent progress.

A. Food consumer price inflation



B. Severely food-insecure people, 2014–25



Sources: Food and Agriculture Organization of the United Nations (FAOSTAT database); Haver Analytics; World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Bars show regional medians of year-on-year food price inflation in domestic currency terms. Data for 2026Q3 cover July and August only. Sample includes up to 115 EMDEs including from EAP (14 countries), ECA (19), LAC (23), MNA (15), SAR (4), and SSA (40).

B. 2025 is estimated data based on FAOSTAT database.

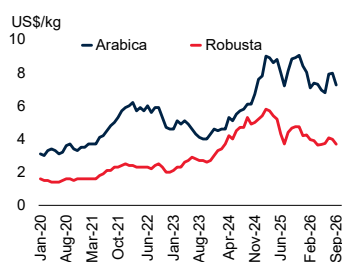
which reduced production and pushed global inventories to a 27-year low, while a major earthquake in Colombia in August disrupted coffee-processing facilities. Robusta prices also increased, by 6 percent (q/q), amid adverse weather in Indonesia and disruption from an earthquake in early August. Despite these recent disruptions, global coffee output has been strong, reaching around 179 million bags during the 2025–26 season (figure 16.B).

Cocoa prices rose by 46 percent in 2026Q3 but remained about 20 percent lower than a year earlier. The renewed surge in prices reflects concerns that strengthening El Niño conditions could affect supplies in Côte d'Ivoire and Ghana, the world's leading cocoa suppliers (figure 16.C). During the 2025–26 crop season (which ended in September), global cocoa output is expected to have increased by 7 percent, driven by higher production in Côte d'Ivoire and Ghana. The recovery in cocoa supply has raised the season's stocks-to-grinding ratio—a rough measure of supply relative to demand—to 43 percent, slightly

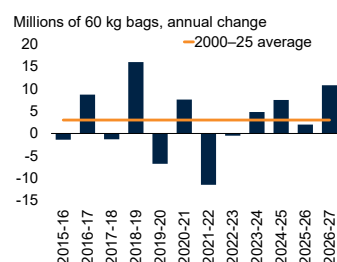
FIGURE 16 Beverage markets

Beverage prices climbed in 2026Q3, as coffee and cocoa prices increased amid unfavorable weather conditions, while tea prices were broadly stable. The beverage price index is projected to decline by 24 percent this year as a prior squeeze on supplies abates. It is then expected to edge 3 percent higher in 2027, primarily driven by higher cocoa prices, and to stabilize in 2028. Key risks to the outlook include weather-related disruptions to production, owing in particular, to El Niño.

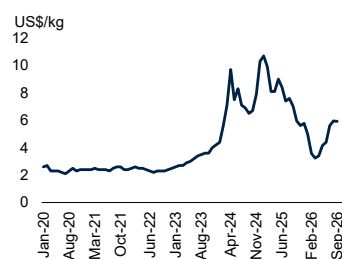
A. Coffee prices



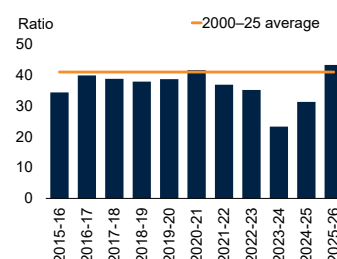
B. Changes in coffee production



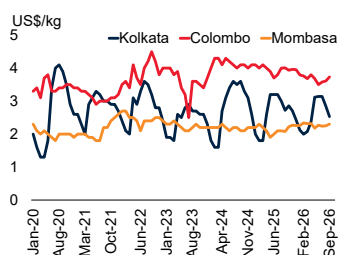
C. Cocoa prices



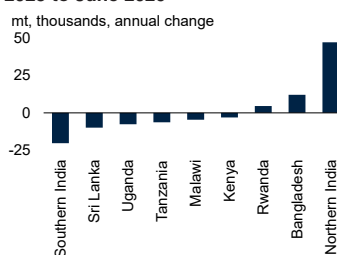
D. Cocoa stocks-to-grindings ratio



E. Tea prices



F. Change in tea production, July 2025 to June 2026



Sources: Africa Tea Brokers Limited; Bloomberg; International Tea Committee; Tea Board India; Tea Exporters Association Sri Lanka; U.S. Department of Agriculture; World Bank.

Note: mt = metric ton.

A.C.E. Monthly data. Last observation is September 2026.

B.D. Year spans indicate crop seasons. Data for 2026-27 are forecasts. Data as of October 9, 2026.

D. Total end-of-season stocks as a percentage of grindings. Data for 2025-26 crop season is a forecast.

F. Tea-producing regions in northern India include Assam, West Bengal, Himachal Pradesh, and Uttar Pradesh; those in southern India include Karnataka, Kerala, and Tamil Nadu.

above its long-term average of 41 percent (figure 16.D).

Tea prices (three-auction average) were broadly stable in 2026Q3 (q/q). Mombasa auction prices were little changed in the quarter but remained 8 percent higher than a year earlier as softer demand

offset lower production in Uganda and Tanzania. At the Colombo and Kolkata auctions, prices both declined by 1 percent (q/q), as subdued demand more than offset weather-related production declines (figure 16.E). Despite recent adverse weather affecting output in southern India and Sri Lanka, the global tea market remains well supplied, supported by rising production in northern India and Bangladesh (figure 16.F).

Outlook and risks

For 2026 as a whole, the World Bank Group's beverage price index is expected to decline by 24 percent, mainly reflecting continued normalization of coffee and cocoa supplies after adverse weather conditions in 2024-25 squeezed production (table 1). The index is projected to edge up by 3 percent in 2027 as cocoa prices strengthen, before stabilizing in 2028. The forecast remains subject to several risks: a stronger-than-expected El Niño could tighten markets further, especially for coffee and cocoa, pushing prices above forecasts. Meanwhile, the conflict in the Middle East could put downward pressure on tea prices by disrupting exports to key regional markets and raising freight costs, thereby weakening import demand and contributing to stock accumulation in exporting countries.

Global coffee production is projected to reach a record high of 190 million bags in 2026-27, up 6 percent from the previous season, marking a fourth consecutive annual increase. Output from major producing countries, including Brazil, Colombia, Ethiopia, and Viet Nam, is expected to increase, with Brazil's production forecast to rise by 14 percent. Reflecting the improved production outlook and despite firming prices in recent months, Arabica prices are expected to decline by 13 percent in 2026 (y/y), and by a further 2 percent in 2027 and 3 percent in 2028. Robusta prices are projected to fall by 21 percent in 2026 before stabilizing in 2027 and 2028. The outlook remains subject to considerable weather-related risks. The unusually strong El Niño underway could lead to tighter markets, with coffee facing weather risks in both directions—drought and heat could threaten critical stages of production in Viet Nam and parts of Central America, while

erratic rainfall patterns and elevated temperatures could further disrupt coffee production in Brazil and Colombia. Heavy rainfall could also trigger crop disease outbreaks, particularly in major producing countries such as Brazil.

With the cocoa supply outlook weakening for the 2026-27 season, as adverse weather and lower pod counts weigh on crops in West Africa, the global cocoa market is expected to tighten. Following a sharp decline of 37 percent in 2026, cocoa prices are projected to rise by 10 percent in 2027 and stabilize in 2028 as the market moves roughly into balance. The main risks to the baseline forecast are related to weather, particularly El Niño, which has historically reduced cocoa yields through drier-than-normal conditions, especially in the rainfed production areas of Côte d'Ivoire and Ghana.

Tea prices are expected to increase by 4 percent in 2027 and by 2 percent in 2028 as demand recovers, particularly in the Middle East. Downside risks to the outlook stem from continued Red Sea shipping disruptions, which could put downward pressure on tea prices by dampening import demand in the Middle East and North Africa—a key tea-consuming region and an important destination for East African tea exports—through higher shipping costs, disrupted trade flows, and reduced purchasing power among regional buyers. On the upside, El Niño could reduce tea production and quality in South Asia, particularly in Bangladesh and parts of India.

Agricultural raw materials

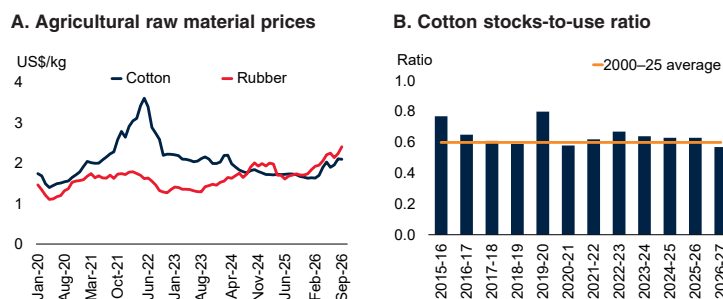
Recent developments

The World Bank Group's agricultural raw materials price index rose by 1 percent in 2026Q3, to levels about 4 percent above a year earlier. The increase was driven mainly by higher prices for cotton and natural rubber, the index's two largest components, amid adverse weather and tightening supply prospects.

Cotton prices were broadly stable in the first half of October, following a 6 percent increase in 2026Q3 (q/q), and remained about 20 percent above their year-earlier level (figure 17.A). The

FIGURE 17 Agricultural raw materials markets

The agricultural raw materials price index firmed in 2026Q3, reflecting higher cotton and natural rubber prices. Cotton prices gained 6 percent (q/q) reflecting a tighter supply outlook for the 2026-27 crop year, with declines in output expected across major producers. Natural rubber prices also edged up in 2026Q3 as adverse weather conditions weighed on production. After averaging about 5 percent higher in 2026, the index is projected to stabilize in 2027 and 2028 as supply conditions improve.



Sources: Bloomberg; U.S. Department of Agriculture; World Bank.

A. Monthly data. Last observation is September 2026.

B. Year spans indicate crop seasons. Stocks-to-use ratio is the ratio of end-season stocks to annual domestic consumption. Data as of October 9, 2026.

increase in prices reflects growing supply concerns as deteriorating crop conditions in major producing regions, including India and the United States, threaten yields. The intensification of El Niño has added further uncertainty to the supply outlook.

Natural rubber prices rose by 4 percent in 2026Q3 (q/q), reaching their highest levels since 2013, and continued to increase in October. The rise in prices was supported by reduced production owing to adverse weather and higher input costs, especially energy prices. In the 12 months to August 2026, global natural rubber production changed little (y/y), with gains in Côte d'Ivoire and Liberia offset by losses in Indonesia, Malaysia, and Viet Nam. Demand was also broadly unchanged, with higher consumption in China and India almost offset by declines in advanced economies. Tire production, which accounts for nearly two-thirds of natural rubber use, slowed for both light and heavy vehicles.

Outlook and risks

After increasing by a projected 5 percent in 2026 (y/y), the World Bank Group's agricultural raw materials price index is projected to stabilize in 2027 and 2028 as supply conditions improve

(table 1). Risks to the outlook are tilted to the upside. El Niño could prove more severe than anticipated, worsening growing conditions and tightening supplies in key producing regions. An unexpected rise in energy costs could also push prices above current projections.

Global cotton production is expected to decline by 3 percent in 2026-27, according to U.S. Department of Agriculture estimates, with reductions across major producers, including China (-6 percent), Pakistan (-6 percent), and the United States (-3 percent). In Brazil and India, however, output is expected to increase by about 1 percent each. Global cotton consumption is projected to increase by 2 percent in the 2026-27 season, lowering the stocks-to-use ratio—a rough measure of supply relative to demand—to 0.57 from 0.63 at the end of 2025-26 (figure 17.B). After rising by a projected 14 percent in 2026, cotton prices are expected to rise more moderately in 2027 and 2028, by 3 percent and 1 percent, respectively, as production recovers. The outlook

remains subject to several risks. El Niño could significantly reduce yields and raise prices, particularly through drier-than-normal conditions in rainfed areas of Australia and the United States. Weaker-than-expected global economic growth would dampen demand.

Following an expected 24 percent increase in 2026, partly reflecting tighter supplies due to El Niño-related rainfall irregularities, natural rubber prices are projected to rise by 5 percent in 2027 as demand continues to expand, before stabilizing in 2028. There are several risks to the outlook. Higher-than-expected energy costs could raise the cost of synthetic rubber production and shift demand toward natural rubber as a cheaper substitute, putting upward pressure on prices. A stronger-than-expected El Niño could also push prices higher as the drier conditions it typically brings to Southeast Asia—home to three of the world's largest producers—Thailand, Indonesia, and Malaysia—could suppress yields across the region.

BOX 1 The 2026-27 El Niño: Implications for commodity markets

El Niño, a major recurring source of global weather variability, alters rainfall and temperature patterns over a large geographical area, with consequences for commodity markets. The current episode, expected to reach very strong intensity and persist into early 2027, is likely to have a moderate effect on aggregate global food commodity price indexes, but could substantially affect individual commodities. The largest effects are likely for commodities whose exports are concentrated in highly exposed countries, such as rice, soybeans, palm oil, coffee, and cocoa, which have historically experienced some of the largest price increases following El Niño conditions. Wheat and maize exports, by contrast, originate mainly in less exposed countries, which, together with ample stocks, should limit the impact on their prices. However, tight edible oil markets and overlapping shocks, such as prolonged disruptions in the Black Sea and the Middle East or new export restrictions, could amplify El Niño's effects. Beyond commodities, highly exposed emerging market and developing economies (EMDEs) could face heightened domestic food price inflation and increased food insecurity pressures.

El Niño is the warm phase of the El Niño–Southern Oscillation (ENSO), a recurring climate phenomenon characterized by fluctuations in sea surface temperatures in the central and eastern equatorial Pacific and the associated changes in atmospheric circulation. It brings drier-than-average conditions to Australia, Central America, the Ethiopian highlands, the Sahel, Southern Africa, South Asia, Southeast Asia, and northern South America. Conversely, it causes above-average rainfall, and sometimes flooding, in southeastern South America, equatorial East Africa, and the southern United States (figure B1.1).

Episodes of El Niño vary considerably in intensity (figure B1.2.A).^a Since 1950, there have been 27 El Niño episodes, four of which were very strong (in 1982–83, 1991–92, 1997–98, and 2015–16), with the current episode expected to become the fifth. Over the same period, there were 3 strong, 9 moderate, and 11 weak episodes. El Niño episodes typically emerge around May or June, strengthen through the third quarter of the year, peak near year-end, and dissipate during the first half of the following year. As a result, much of the associated rainfall anomaly occurs during the second half of the year, overlapping with the growing season for several major internationally traded commodities.

a. According to the U.S. National Oceanic and Atmospheric Administration (NOAA), El Niño events are classified as weak (RONI of 0.5°C to <1.0°C), moderate (1.0°C to <1.5°C), strong (1.5°C to <2.0°C), or very strong (2.0°C or higher), based on the Relative Oceanic Niño Index (RONI). An event is classified according to the highest category threshold met or exceeded for at least three consecutive overlapping three-month periods.

How El Niño affects commodity markets

El Niño affects agricultural commodity markets predominantly by changing temperature and precipitation in major producing regions. Drought or excess rainfall reduces crop output, while flooding disrupts harvesting, storage, and transport. El Niño also affects non-agricultural commodity markets. Drought reduces hydropower generation, constrains mining operations, and disrupts shipping corridors such as the Panama Canal. Heavy rainfall disrupts open-pit mining, road transport, and logistics, while warmer conditions raise electricity demand for cooling. These effects raise production and transport costs and propagate through supply chains.

While El Niño's reach is global, its effects can be highly localized. About two-thirds of countries in Sub-Saharan Africa (SSA) and Latin America and the Caribbean (LAC), and half of those in East Asia and Pacific (EAP), are highly exposed to El Niño. All countries in South Asia (SAR) are either highly or moderately exposed (figure B1.2.B).^b

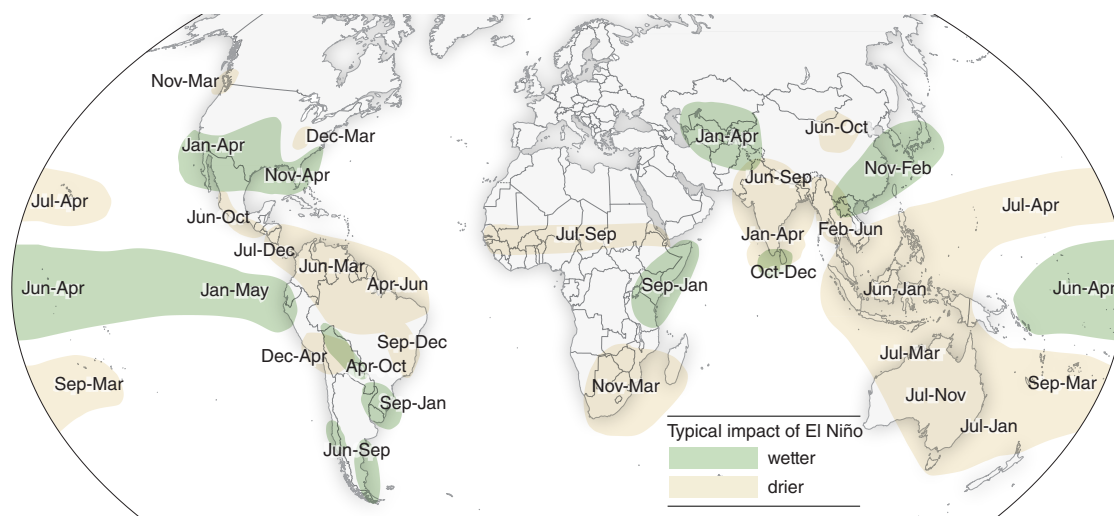
The impact of El Niño on commodity prices varies widely because its direct weather effects interact with inventories, demand conditions, crop substitution, and trade policies. Historical patterns show that agricultural commodity prices, including food, are on average higher following El Niño months than after neutral

b. Remote links between ENSO and distant weather patterns, known as teleconnections, are typically measured by correlations between an ENSO index and local temperature and precipitation, and are generally strongest in the tropics. This box uses the country-level teleconnection metric of Callahan and Mankin (2023), based on correlations between eastern Pacific ENSO variability (also known as the E-index) and monthly temperature and precipitation over 1960–2019, to classify countries into high-, medium-, and low-exposure terciles.

BOX 1 The 2026-27 El Niño: Implications for commodity markets (continued)

FIGURE B1.1 El Niño rainfall patterns

El Niño shifts rainfall patterns across much of the tropics, bringing drier-than-average conditions to some major producing regions and wetter conditions to others.



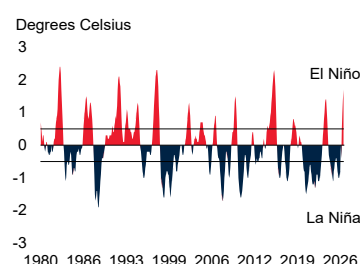
Sources: Columbia Climate School; International Research Institute for Climate and Society; National Oceanic and Atmospheric Administration (NOAA); World Bank (Cartography Unit).

Note: The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries. The original source map on El Niño and rainfall is from the Columbia Climate School's International Research Institute for Climate and Society.

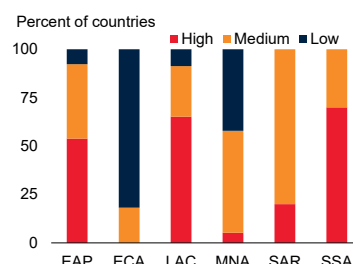
FIGURE B1.2 El Niño intensity, exposure, and commodity price changes during episodes

El Niño episodes vary widely in intensity, and exposure is high across many EMDE regions. Historically, food, agricultural, and metal prices rose more following El Niño months than following neutral months.

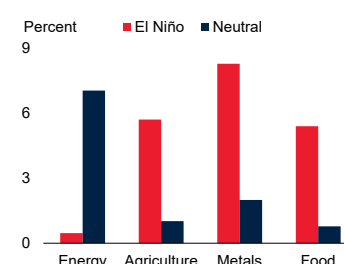
A. Relative Oceanic Niño Index (RONI)



B. Exposure of countries to El Niño



C. Commodity price changes following El Niño and neutral episodes



Sources: Callahan and Mankin (2023); National Oceanic and Atmospheric Administration (NOAA); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; ENSO = El Niño–Southern Oscillation; LAC = Latin America and the Caribbean; MNA = Middle East, North Africa, Afghanistan, and Pakistan; RONI = Relative Oceanic Niño Index; SAR = South Asia; SSA = Sub-Saharan Africa.

A. RONI index shows a centered three-month mean sea-surface temperature anomaly for the Niño-3.4 region (a central-eastern area of the tropical Pacific Ocean near the equator) relative to the broader tropical oceans to characterize ENSO episodes. La Niña is the cool phase of ENSO, characterized by below-average sea-surface temperatures in the central and eastern equatorial Pacific. According to NOAA, episodes are defined as five consecutive overlapping three-month periods at or above +0.5°C for El Niño and at or below −0.5°C for La Niña. Horizontal lines indicate the +0.5°C and −0.5°C thresholds. Last observation is August 2026.

B. Country-level ENSO teleconnections, based on Callahan and Mankin (2023). Teleconnection scores are calculated as the sum of the absolute values of the correlation coefficients between the E-index and monthly country-level temperature and precipitation from 1960 to 2019. High, medium, and low exposure countries refer to the top, middle, and bottom terciles of the teleconnection score distribution.

C. Six-month-lagged year-on-year price changes in percent based on monthly ENSO conditions between 1970 and 2025. As in panel A, RONI values of at least +0.5°C are classified as El Niño and values between −0.5°C and +0.5°C as ENSO-neutral. Food, agriculture, energy, and metals prices are measured using the World Bank Group's price indexes used elsewhere in this report. The agriculture index consists of food, beverages, and agricultural raw materials. The products included in each price index are listed in table 1 in the main text.

BOX 1 The 2026-27 El Niño: Implications for commodity markets (continued)

months (figure B1.2.C). Metals prices follow a similar pattern, whereas energy prices tend to be lower following El Niño months (figure B1.2.C). Among major food and beverage commodities, year-on-year price increases for rice, palm oil, robusta coffee, and cocoa were more than 10 percentage points larger six months after El Niño months than after neutral months (figures B1.3.A and B1.3.B).^c Maize and soybean prices were about 5 percentage points higher, while wheat and sugar prices were not statistically different from those following neutral ENSO phases. Such heterogeneity partly reflects the geographic concentration of commodity exports. More than three-fourths of palm oil, cocoa, coffee, and sugar exports originate in highly exposed countries, whereas maize and wheat exports are generally less concentrated in these countries (figures B1.3.C and B1.3.D). Most rice and soybean exports come from countries with high or medium exposure.

Food commodity price changes vary, even among very strong El Niño episodes. During 2015, food prices declined sharply due to ample supplies and lower energy and input costs, and they fell during the 1997–98 episode amid weak demand. In 1992–93, El Niño hit hardest in Southern Africa, a minor grain exporter, while record harvests elsewhere kept world food prices stable. By contrast, prices rose in 1983, when depleted inventories coincided with a rebound in demand following the 1982 global recession. The empirical literature generally finds modest effects of El Niño on aggregate commodity prices and larger impacts on tropical agricultural products.^d

c. Each month is classified as El Niño, La Niña, or neutral based on the RONI index and matched with the year-on-year change in prices six months later. Price changes are averaged across all El Niño months, regardless of intensity, and compared with the average across neutral months over the same period.

d. A one-standard-deviation ENSO shock is estimated to raise non-oil primary commodity price inflation by 3.5–4 percentage points, largely through food prices (Brenner 2002). Other estimates suggest relatively modest effects on aggregate commodity prices, including food prices (World Bank 2015). El Niño is estimated to raise global non-energy commodity prices by about 5 percent over 6–16 months (Cashin, Mohaddes, and Raissi 2017). The strongest evidence of price effects is for tropical agricultural products, including vegetable oils, oilseeds, coffee, and cocoa, with weaker effects for grains and metals (Ubilava 2018).

Potential implications of the current El Niño episode

The World Bank Group's food commodity price index is forecast to rise by 10 percent in 2026 and a further 7 percent in 2027, representing upward revisions of 8 and 14 percent, respectively, from the April 2026 Commodity Markets Outlook. These revisions reflect tighter market conditions and the materialization of several downside supply risks, including the prolonged conflict in the Middle East and disruptions to Black Sea grain shipments. El Niño conditions have also prompted substantial upward revisions to forecasts for several commodities. Palm oil price forecasts have been raised by 5 percent for 2026 and 15 percent for 2027, reflecting drier-than-normal conditions in Indonesia. Rice forecasts have been revised up by 12 and 21 percent for 2026 and 2027, respectively, while sugar forecasts have increased by 6 and 12 percent, amid weather-related disruptions to planting and harvesting in key growing regions. Cocoa price forecasts have been raised by 29 percent for both years as El Niño-related conditions in West Africa threatened yields.

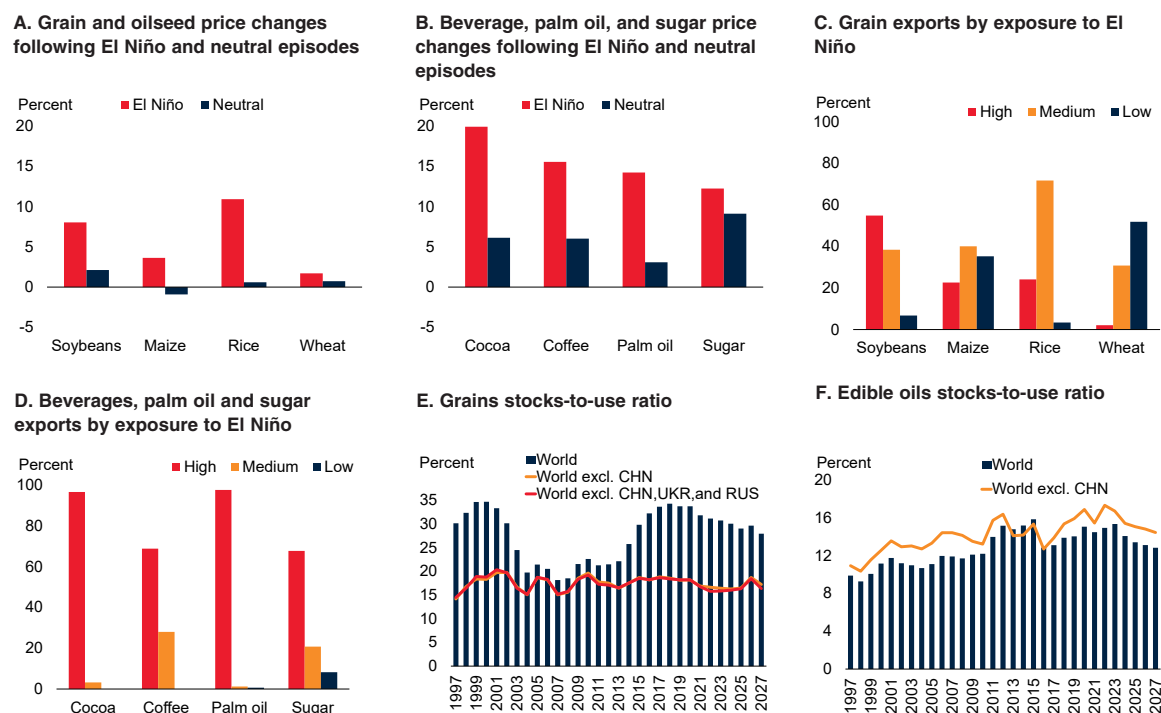
For many other food commodities, elevated energy and fertilizer costs associated with the Middle East conflict, or severe threats to shipping through the Black Sea, are shaping price movements. Relatively favorable supply conditions, on the other hand, are helping to contain price increases for some grains, as global grain markets entered the current El Niño episode with more adequate supplies than during previous price spikes, such as in 2007–08. The aggregate stocks-to-use ratio (a rough measure of supply relative to demand) for grains is expected to be nearly 28 percent in 2026–27, similar to the 30-year average of 27.7 percent and well above the 18.1 percent recorded in 2007–08. Excluding China, the ratio is expected to reach 17.2 percent in 2026–27, still above the 15 percent recorded in 2007–08 (figure B1.3.E). Global food markets could tighten if El Niño coincided with further trade disruptions, including additional restrictions on Black Sea grain exports and renewed export controls by major exporters.

Unlike grain markets, global edible oil markets are tighter, with aggregate stocks-to-use ratios approaching levels recorded during the 2007–08 price spikes (figure

BOX 1 The 2026-27 El Niño: Implications for commodity markets (continued)

FIGURE B1.3 Commodity exposure to El Niño, historical price changes, and stocks-to-use ratios

Exposure of major exporters and historical price responses vary substantially across commodities. Supply conditions also differ across markets, with edible-oil stocks approaching levels seen during past price spikes.



Sources: National Oceanic and Atmospheric Administration (NOAA); U.S. Department of Agriculture; World Bank.

Note: CHN = China; ENSO = El Niño–Southern Oscillation; RUS = Russian Federation; UKR = Ukraine.

A,B. Six-month-lagged year-on-year price changes in percent based on monthly ENSO conditions between 1970 and 2025. El Niño months are defined by a Niño-3.4 sea-surface temperature anomaly of at least +0.5°C; values between −0.5°C and +0.5°C are classified as ENSO-neutral. For all commodities except wheat and sugar, differences in price changes between El Niño and neutral episodes are statistically significant based on t-tests.

B. Coffee refers to Robusta coffee.

C,D. Bars show the share of global exports accounted for by countries in each El Niño exposure group.

E,F. Stocks-to-use ratios are end-season stocks as a percent of domestic consumption.

E. Grains include maize, rice, and wheat.

F. Edible oils include coconut, cottonseed, palm, palm kernel, peanut, rapeseed, soybean, and sunflower seed oil.

B1.3.F). This partly reflects renewed biofuel mandates and higher biofuel profit margins amid higher energy prices. These pressures add to an anticipated increase in prices for palm oil amid the aforementioned weather-related challenges in key growing regions. Accordingly, the World Bank Group's oils and meals price index is forecast to rise by 17 percent in 2026 and a further 8 percent in 2027.

Through its effects on commodity prices, El Niño can exacerbate food inflation and food insecurity. Between 1996 and 2024, median food inflation during El Niño

periods was 5.5 percent in highly exposed countries, compared with 3.4 percent in countries with low exposure. Nearly half of the world's undernourished people live in highly exposed countries.^e By eroding real incomes, higher food inflation could worsen food insecurity in countries least able to absorb the shock, even without a broad surge in global food prices.

e. These computations are based on food CPI data from Haver Analytics, food insecurity data from FAOSTAT, and the country-level ENSO teleconnection scores of Callahan and Mankin (2023).

Fertilizers

The World Bank Group's fertilizer price index fell by 22 percent in 2026Q3 (q/q) and continued to decline in October, fully reversing the 2026Q2 surge that followed the closure of the Strait of Hormuz. Urea prices drove both swings, while other fertilizer prices rose less sharply but remained elevated in 2026Q3. Despite the recent retreat, the index is projected to rise by about 14 percent in 2026 (y/y), reflecting shipping disruptions in the Middle East, associated increases in input costs, and trade restrictions. Prices are forecast to fall by 12 percent in 2027 and a further 8 percent in 2028 as input costs ease and supplies recover, aided by increased exports from producers outside the Gulf region. Risks remain tilted to the upside, particularly given the possibility that shipping disruptions could worsen and input costs could rise.

Recent developments

Nitrogen (urea) prices averaged \$399/mt in 2026Q3, down 42 percent (q/q) and 18 percent (y/y), after peaking at \$857/mt in April (figure 18.A). Prices eased further in the first half of October. The initial retreat during 2026Q2 reflected China's easing of export restrictions in May, the temporary reduction in hostilities following the June memorandum of understanding between the United States and the Islamic Republic of Iran, and reductions in purchases, partly owing to the end of spring planting in the Northern Hemisphere. Increased exports from China and other major suppliers, including Egypt, Nigeria, and Oman, helped sustain a return to more normal price levels.

China's urea exports are expected to reach 7.0 million metric tons (mmt) in 2026, up from 4.9 mmt in 2025. Although an export ban imposed after the start of the Middle East conflict cut exports to near zero between March and June, China's urea exports in the first eight months of 2026 matched the level of a year earlier, at about 1.4 mmt, with two-thirds shipped in July and August (figure 18.B). This ramp-up of exports helped replace a sizable portion of supplies blocked by the initial near closure of the Strait of Hormuz. It also highlights China's potential role as a swing supplier, given its large coal-based urea industry, accumulated inventories previously under export restrictions, and capacity additions in 2026.

DAP (diammonium phosphate) prices rose by 4 percent in 2026Q3 (q/q), extending the 20 percent increase in 2026Q2 to narrowly exceed their year-earlier level. Conflict-related shortages

of sulfur, a key input in the production of DAP, due to disruptions in the Middle East continued to constrain supply, although shortages began to ease in October as sulfur shipments reportedly crossed the Strait of Hormuz. Prices of ammonia, another key input of DAP, remained 8 percent higher in September than a year earlier, with 15 percent of global ammonia trade also disrupted by developments in the Strait (figure 18.C). European natural gas prices, at 91 percent higher than a year earlier in 2026Q3, have raised ammonia production costs for suppliers in Europe. China's DAP export ban, in place since October 2025, further tightened supplies and supported prices.

MOP (muriate of potash, or potassium chloride) prices eased by 5 percent in 2026Q3 (q/q) but remained 7 percent higher than a year earlier. MOP has been largely shielded from the Middle East conflict, as production in the Gulf region is negligible, and as potash is mined rather than produced from natural gas. Supply has also been supported by the easing of U.S. sanctions on Belarus, the third-largest producer after Canada and Russia. As a result, MOP remains the most affordable fertilizer relative to food prices (figure 18.D).

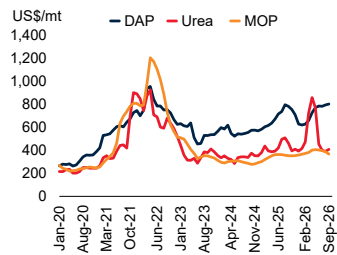
Outlook and risks

Despite recent declines, urea prices are projected to average 21 percent higher in 2026 (y/y), reflecting the surge in the first half of the year. Seasonal buying from Brazil, which typically purchases most of its urea imports between August and December, is likely to support prices in late 2026. Urea prices are forecast to fall by 16 percent in 2027 and 14 percent in 2028, assuming Middle Eastern exports recover, natural gas prices ease,

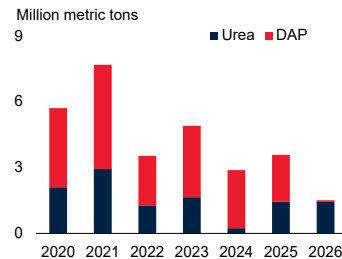
FIGURE 18 Fertilizer market

Fertilizer prices fell by 22 percent in 2026Q3 (q/q), fully reversing the previous quarter's 22 percent gain. Urea prices drove both swings, surging after the initial Strait of Hormuz closure before retreating as China lifted its export restrictions. High input costs for ammonia, sulfur, and natural gas kept phosphate fertilizer prices elevated. MOP remains the most affordable fertilizer, having been less affected by supply and production disruptions. Urea affordability has improved sharply since April.

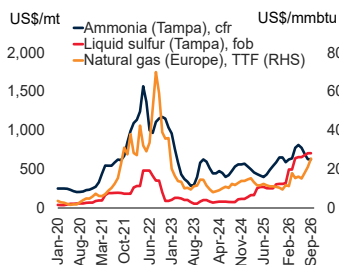
A. Fertilizer prices



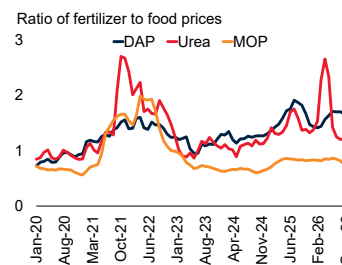
B. China: fertilizer exports, January to August



C. Input costs



D. Fertilizer affordability



Sources: Bloomberg; Bloomberg L.P.-Green Markets; General Administration of Customs of the People's Republic of China; World Bank.

Note: cfr = cost and freight; DAP = diammonium phosphate; fob = free on board; mmbtu = million British thermal units; MOP = muriate of potash; mt = metric ton; RHS = right-hand scale; TTF = Title Transfer Facility.

A.C.D. Monthly series. Last observation is September 2026.

B. Bars show China's total exports of DAP and urea from January–August each year.

D. The fertilizer non-affordability index is calculated as the ratio of fertilizer prices to the food price index. A higher ratio indicates lower affordability.

and new capacity spurred by recent events adds to overall production.

Upside risks to the outlook for urea prices include an escalation in the Middle East conflict that raises input costs, particularly for natural gas, above baseline expectations. More specifically, continued conflict could lead to an extension of Qatar's force majeure, imposed in March, on contracts to sell LNG and related products, including urea. Export

restrictions by major producers are another potential source of renewed price surges. Conversely, a swift reduction of geopolitical tensions in the Gulf region could lead to a surge of exports, materially lowering prices, although infrastructure damage is likely to delay the full recovery of urea production.

After a projected 7 percent increase in 2026, DAP prices are forecast to drop by about 18 percent in 2027 and 17 percent in 2028. The forecast assumes a shift in demand from DAP toward more affordable fertilizers and an easing of sulfur and ammonia supply disruptions, provided that the recent trend of recovering shipments from the Gulf region is sustained. China's phosphate export ban was due to expire at the end of August, but it remains unclear when exports will resume. An extension of the ban or a prolonged reduction in shipping from the Gulf region could keep prices above forecasts. Conversely, earlier removal of export restrictions or a durable easing of shipping from the Gulf could push prices lower.

Prices of MOP are on course to rise by 10 percent in 2026, supported by resilient demand, as potash remains more affordable than nitrogen and phosphate fertilizers. MOP prices are then projected to retreat by 9 percent in 2027 and 4 percent in 2028. These declines reflect the prospect of ample supplies from Belarus, Canada, Laos, and Russia, boosted by new capacity expected to come online in 2027. The outlook also assumes that potash trade remains unaffected by U.S.–Canada trade tensions. With Canada supplying more than 80 percent of U.S. potash demand, tariffs or other restrictions on this trade could redirect U.S. purchases toward other suppliers, reducing the efficiency of supply networks and potentially pushing global prices above forecasts. Conversely, lower-than-expected prices of other fertilizers, such as DAP, could reduce demand for MOP as an alternative, bringing prices below projections.

Metals and minerals

The World Bank Group's metals and minerals price index is on track to rise by 25 percent in 2026, to a record annual average, reflecting supply constraints for several base metals amid resilient demand. Metal prices are forecast to inch down in 2027, but a high-price regime is expected to remain entrenched, with the metals and minerals price index projected to exceed its 2021 peak by 16 percent. Demand for base metals is anticipated to hold firm, underpinned by robust investment in electrification infrastructure, renewable energy, and data centers, which are base-metal-intensive. However, subdued conventional construction in many economies and weakness in China's steel sector are likely to weigh on iron ore prices. The precious metals price index fell by 7 percent in 2026Q3 after reaching all-time highs earlier in the year. Still, the index is on track to increase by 40 percent in 2026, before drifting lower by 8 percent in 2027 as investor demand moderates. Production disruptions, precautionary stockpiling, or stronger-than-expected global investment could push metal prices above the projections, while a sharp weakening of global economic activity could see metal prices decline steeply. For precious metals, geopolitical tensions or financial market volatility could lift prices beyond baseline forecasts, while higher-for-longer interest rates or a stronger U.S. dollar could depress prices.

Base metals and iron ore

Recent developments and outlook

Average base metal prices edged lower in 2026Q3 and declined further in October, although aluminum, copper, tin, and zinc reached all-time highs. In contrast, iron ore prices declined in the quarter, recently averaging about 40 percent below their 2011 peak level (figure 19.A). Tightness in several base metal markets has partly reflected supply constraints, including disruptions at major mines and smelters, and official production limits in China. Rapidly growing investment in power grids, electric vehicle (EV) production, renewable energy, electronics, and data centers continued to support demand for aluminum, copper, and tin. Meanwhile, the ongoing slump in construction and steel activity—particularly in China—weighed on iron ore prices.

Base metal supply is expected to improve gradually in the forecast period as disrupted production recovers and new capacity comes on stream. These developments are expected to lead to modest declines in the base metals price index in 2027–28 from the all-time highs reached in 2026, although the 2027 level remains higher than forecast in April (table 1). Even so, the structural conditions for an entrenched regime of elevated base metal prices seem increasingly present. A shift in global investment toward base-metal-intensive sectors is

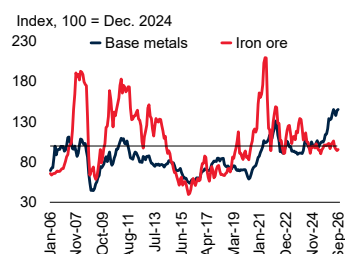
underway, together with constraints on supply expansion arising from decade-plus timelines for exploration and mine construction for some metals, and limited refining capacity for others. Geographically concentrated processing and refining, alongside growing trade restrictions—including export curbs by major producing economies and import tariffs in major consuming economies—also leave some markets vulnerable to disruptions and supply shortages. Iron ore faces a different outlook. The maturation of China's construction sector and weakness in its property sector are expected to continue weighing on steel demand, while rising production from major exporters and new capacity in Guinea are expected to add to already ample supplies.

Aluminum prices fell by 9 percent in 2026Q3 (q/q) and declined further in October, reversing the previous quarter's surge to record highs as concerns about Middle East supply disruptions eased (figure 19.B). Aluminum supply is expected to remain constrained, with production in China—which accounts for about 60 percent of global output—operating close to its official smelting capacity ceiling of 45 million tons per year, Gulf output still recovering from a 10 percent decline in the first half of 2026 (y/y), and European output about 20 percent below 2021H1 levels as persistently high electricity costs continue to weigh on smelter competitiveness. Upstream bauxite supply remains comparatively ample,

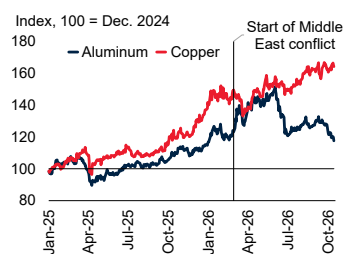
FIGURE 19 Metals and minerals markets

Base metal prices remained close to all-time highs in 2026Q3, although iron ore prices weakened further amid subdued steel demand. Copper prices rose anew amid mine disruptions and increased stockpiling related to uncertainty about U.S. import tariffs. Aluminum prices have moderated after supply concerns linked to Middle East trade disruptions pushed them to record highs earlier this year, but they remain historically elevated. Most base metal prices are expected to decline modestly in 2027 as production recovers and new capacity comes online, although there is considerable uncertainty amid supply challenges and shifts in demand.

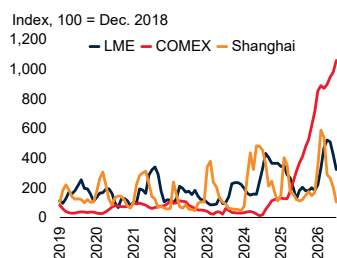
A. Base metals and iron ore prices



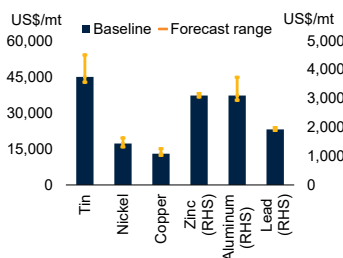
B. Aluminum and copper prices



C. Copper inventories at major metal exchanges



D. Base metal price forecasts for 2027



Sources: Bloomberg; Refinitiv (database); World Bank.

Note: COMEX = Commodity Exchange; LME = London Metal Exchange; mt = metric ton; RHS = right-hand scale.

A.D. Base metals include aluminum, copper, lead, nickel, tin, and zinc.

A. Monthly data. Last observation is September 2026.

B. Daily data. Last observation is October 14, 2026.

C. Monthly data. Last observation is July 2026.

D. Blue bars show the World Bank Group's October 2026 baseline forecast for 2027. Yellow whiskers show forecast range for 2027 using the most optimistic and pessimistic models, as presented in Arroyo Marioli et al. (2023).

2027 and 3 percent in 2028 as Gulf production gradually recovers and additional capacity in Africa and Asia comes online.

Copper prices rose by 6 percent in 2026Q3 (q/q) and strengthened further in October to new record highs. The rally partly reflects mining disruptions and dislocations between major refined copper markets. Earlier in 2026, uncertainty over possible U.S. tariffs on refined copper imports generated a sizable premium of COMEX copper prices over LME prices. The resulting arbitrage drew refined copper into U.S. warehouses, tightening availability elsewhere and putting upward pressure on LME prices (figure 19.C). Although the COMEX-LME differential narrowed substantially by September, uncertainty persists over whether tariffs will take effect in January 2027, with COMEX inventories around all-time highs.

Copper mine production growth is expected to remain subdued, reflecting the lingering effects of weather-related disruptions in Indonesia, together with operational constraints and declining ore grades in Chile, the world's largest producer. Export restrictions in the Democratic Republic of Congo could also constrain copper concentrate trade. Global copper demand declined slightly in the first half of 2026 but is expected to firm in 2027–28, supported by investment in power grids and data centers, as well as the continuing auto-industry pivot toward EV production, which is more copper-intensive. After a projected 33 percent (y/y) increase to a record annual average in 2026, copper prices are forecast to decline by 2 percent in 2027 and 4 percent in 2028 but remain near record highs.

Lead prices fell by 5 percent in 2026Q3 (q/q) and declined further in October amid rising inventories and subdued demand growth. Demand is expected to strengthen modestly over 2027–28, reflecting the dominance of battery applications, which account for more than 85 percent of global lead use. Replacement demand from the large existing fleet of internal combustion engine vehicles will remain an important source of consumption, while demand continues to grow for lead-acid auxiliary batteries in electric and hybrid

although possible export restrictions by Guinea—the world's largest exporter—and lower alumina output in Australia could constrain feedstock availability. Global consumption remained broadly resilient in 2026H1, with stronger demand in China offsetting weakness elsewhere, and is expected to expand steadily, supported by investment in data centers, electrification, transport and packaging. Aluminum prices are estimated to average an all-time high of \$3,250 per metric ton in 2026, about 24 percent (y/y) higher than in 2025, before easing by 5 percent in

vehicles to support low-voltage electrical systems. Refined lead supply is expected to increase modestly, with secondary production accounting for about two-thirds of global output, supported by recent additions to recycling capacity, including in India. Mine supply is expected to edge higher over 2027–28 as existing operations expand and new projects come on stream, particularly in Australia and the United States. Against this backdrop, lead prices are expected to decline by 3 percent in 2026 (y/y) and to inch higher by 1 percent in each of 2027 and 2028, as sustained consumption broadly keeps pace with modest supply growth.

Nickel prices fell by 9 percent in 2026Q3 (q/q) and declined further in recent weeks, reversing part of the sharp increase earlier in the year, when tighter Indonesian mining quotas and disruptions to sulfur supplies pushed prices to a two-year high. Mine supply growth is expected to remain subdued, reflecting the lower production quotas in Indonesia, which accounts for about 65 percent of global output. Refined nickel supply is expected to expand over 2027–28 as new capacity becomes available, although ore availability remains subject to Indonesia's annual quota decisions. Demand is expected to increase moderately, supported by stainless steel production, which accounts for about two-thirds of global nickel use, although nickel also serves a broad range of industrial applications beyond construction. Nickel demand from battery production, however, is being tempered by the growing use of nickel-free lithium-iron-phosphate batteries in EVs and energy storage. After a projected 13 percent increase in 2026 (y/y), nickel prices are forecast to be little changed in 2027 as market conditions rebalance, before firming by 1 percent in 2028.

Tin prices rose by 4 percent in 2026Q3 (q/q), reaching all-time highs amid persistent supply constraints, and remained broadly stable in October. Tin supply is expected to recover gradually as mine production continues to normalize in Myanmar following policy-related disruptions, and regulatory and export constraints ease in Indonesia. Rising tin output should ease

the market tightness seen in 2026, although limited expansion among other producers and a thin pipeline of new mining projects are expected to constrain future supply growth. Demand growth is expected to strengthen somewhat in 2027–28, supported by electronics and semiconductor applications. Solder accounts for about half of global tin use, while use in solar and other electrification technologies is growing. Following an expected 50 percent (y/y) increase in 2026 to a record annual average, tin prices are forecast to decline by 12 percent in both 2027 and 2028 as improving supply conditions ease market tightness.

Zinc prices increased by 11 percent in 2026Q3 (q/q) and were little changed in October, as temporary disruptions to Chinese smelter output added to tight availability elsewhere. Mine output is expected to increase over 2027–28 as recently expanded operations in the Democratic Republic of Congo and South Africa ramp up and new capacity elsewhere in Africa comes online. Refined zinc production is also expected to expand, thanks to improved feedstock availability, particularly in China, which accounts for close to half of global production. High energy costs are likely to continue to constrain smelter output elsewhere, particularly in Europe. Demand growth, by contrast, is expected to remain modest. About 60 percent of zinc is used to galvanize steel, with the construction industry accounting for roughly half of final consumption, leaving demand vulnerable to weak construction and steel activity in China and other major markets. This weakness is expected to be only partly offset by demand from investment in automotive manufacturing and infrastructure, including power grids and renewable energy. In all, following an anticipated 22 percent increase in 2026 (y/y) to a record annual average, zinc prices are forecast to retreat by 11 percent in 2027 and a further 10 percent in 2028, reflecting expanding supply and only modest demand growth (figure 19.D).

Iron ore prices fell by 7 percent in 2026Q3 (q/q) and declined further in October, amid persistent weakness in China's steel sector and subdued

construction in the residential sector in many advanced economies. Nearly all iron ore is used for steelmaking, and investment in buildings and infrastructure accounts for just over half of steel demand. Demand is expected to remain muted over 2027–28, partly reflecting weak steel consumption in China amid broadly subdued investment and continuing property-sector challenges. Output in Australia and Brazil—the main seaborne exporters—is expected to remain ample, while production at Guinea’s high-grade and low-cost Simandou project continues to ramp up toward full capacity, targeted for 2028. Against this backdrop, iron ore prices are estimated to decline by 2 percent in 2026 (y/y), followed by further declines of 3 percent in each of 2027 and 2028.

Risks

Risks to the outlook for base metal prices remain tilted to the upside. Several metal markets remain vulnerable to further supply disruptions from production setbacks and shifts in global trade flows. Further geopolitical disruptions or new trade restrictions could tighten markets more than assumed in the baseline, particularly for aluminum and copper. There are also downside risks, including weaker global activity than anticipated. For instance, further increases in energy costs could push inflation and interest rates higher, weighing on investment, manufacturing, and industrial metals demand.

Upside risk: Sharper supply constraints

The baseline assumes a gradual expansion in metal supplies, without major additional disruptions to production or trade flows. Supplies could instead become tighter if existing constraints persist longer than assumed or if geopolitical or operational disruptions intensify. Aluminum markets are particularly exposed to the Middle East conflict, which poses risks to production and shipping from major Gulf suppliers. Intensified energy-market disruptions could also constrain aluminum and zinc smelting through higher electricity costs, particularly in Europe, while increased

impediments to sulfur shipments from the Middle East could raise nickel processing costs in Indonesia. Meanwhile, Chinese aluminum production is approaching its policy-imposed capacity ceiling. Copper supply could also fall short of projections, with recent operational setbacks at major mines in South America highlighting the difficulty of ramping up production. Ongoing El Niño-related weather events could compound these risks, as shown by past disruptions to metal production and shipments through drought-induced power shortages in Africa and flooding in South America. Given the concentration of most metal production and refining capacity in relatively few countries, simultaneous disruptions across major suppliers could tighten global balances considerably and push prices well above baseline projections.

Upside risk: Commodity-specific trade restrictions

Recent trade policy actions highlight the risk that additional restrictions could tighten metal markets and raise prices. In the Democratic Republic of Congo, a ban on exports of copper concentrates introduced in August to encourage domestic processing may have limited near-term impact, because of refining capacity constraints and possible exemptions, but it could restrict some trade flows. In the United States, a decision on proposed phased tariffs on refined copper imports is still pending, following earlier tariffs on copper products. Policy uncertainty could encourage further stockpiling and create localized supply squeezes. Meanwhile, European Union restrictions on Russian primary aluminum imports have tightened, while further restrictions on exports of aluminum scrap to non-OECD countries are being considered. Further expansion or stricter enforcement of such measures could fragment global markets, redirect trade flows, tighten supply in some regions, and increase price volatility.

Downside risk: Weaker-than-expected global growth

The baseline assumes that global growth will firm somewhat next year and then remain moderate,

supported by declining energy prices and gradually easing inflation. However, the materialization of various risks—such as an intensification of energy market disruptions—could produce higher inflation, widespread monetary policy tightening, more restrictive financial conditions and weaker global economic activity. Financial stress could potentially emerge, perhaps related to rising government bond yields or a sharp correction in AI-driven equity valuations. Such shocks would weigh on industrial metals demand, which is closely tied to cyclically sensitive sectors such as construction, manufacturing, and infrastructure investment. The effects could be amplified in the case of a sharper-than-expected slowdown in China, for instance if external demand were to falter, weighing on export industries.

Other critical minerals

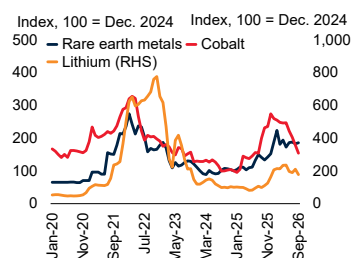
Prices of other critical minerals generally weakened in 2026Q3, led by cobalt, which fell by 25 percent (q/q), and lithium, which declined by 13 percent (figure 20.A). The decline in lithium prices reflected the restart of previously curtailed mines in Australia, the resumption of concentrate exports from Zimbabwe, and softer EV sales momentum in China, although strong demand from energy storage and robust EV demand in several other regions provided support. Cobalt prices fell sharply, partly reversing earlier gains, but remained elevated as export quotas in the Democratic Republic of Congo continued to constrain global supply. Rare earth prices were broadly stable, with ongoing Chinese export controls and licensing requirements curbing supply in some markets outside China.

Critical mineral markets are the target of increasing government policy and trade interventions. Measures affecting critical minerals rose sharply in 2025, with restrictive actions continuing to substantially outnumber liberalizing measures in 2026 (figure 20.B). Export restrictions and strategic stockpiling could support prices in the near term by tightening available supply and increasing precautionary demand, particularly in already concentrated markets. At the same time,

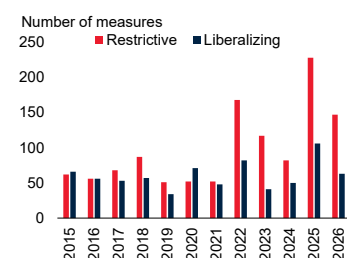
FIGURE 20 Critical minerals markets

Critical mineral prices generally weakened in 2026Q3, with cobalt and lithium falling while rare earth prices were broadly stable. However, supply restrictions continued to support prices in some markets. New trade-policy interventions have remained common, with restrictive measures far outnumbering liberalizing actions in recent years. Export restrictions and strategic stockpiling could lift international prices in the near term, while efforts to expand mining, processing, and recycling capacity may gradually improve supply resilience. Yet with demand projected to rise sharply and new projects facing long lead times, critical mineral markets are expected to remain highly sensitive to policy changes and disruptions for some time.

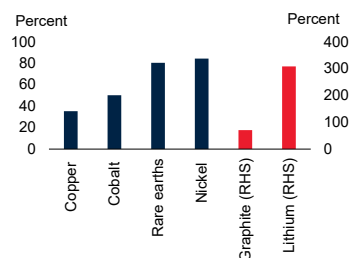
A. Price indexes for selected minerals



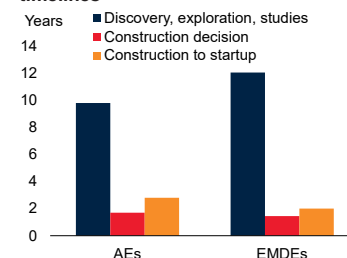
B. Trade measures affecting critical minerals



C. Projected demand growth, 2025–50



D. Median mine development timelines



Sources: Bloomberg; Global Trade Alert; International Energy Agency (IEA); S&P Global; World Bank.

Note: AEs = advanced economies; EMDEs = emerging market and developing economies; RHS = right-hand scale.

A. Monthly data. Last observation is September 2026.

B. Figure shows the number of trade policy interventions affecting critical minerals implemented worldwide each year. Restrictive measures are those assessed as discriminating against foreign commercial interests; liberalizing measures are those that lower barriers or improve transparency. Interventions cover import and export instruments and are counted equally regardless of trade volume affected. Critical minerals are defined according to the Global Trade Alert Critical Raw Materials product group. Data for 2026 are partial and are as of September 2026.

C. Bars show projected cumulative demand growth between 2025 and 2050 under the IEA's Stated Policies Scenario.

D. Bars show the median number of years from discovery to commercial production for 127 precious and base metal mines that began production during 2002–23 and were discovered from 1980 onward. Construction decision refers to the period between completion of feasibility studies and the start of construction.

major consuming economies are expanding support for domestic mining, processing, and recycling, as well as overseas projects, including through Project Vault in the United States and the European Union's Critical Raw Materials Act. These measures may gradually lead to more geographically diversified production, bolstering

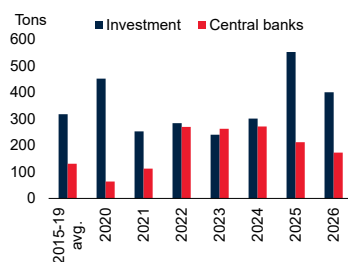
FIGURE 21 Precious metals markets

Precious metal prices retreated in 2026Q3 after reaching record highs earlier in the year, as rising government bond yields and increases in policy rates by the Federal Reserve and other central banks weighed on prices. Gold demand remains supported by investment flows and central bank purchases, although investor appetite has moderated since late 2025. For platinum, further declines in automotive demand are expected to be partly offset by modest growth in industrial uses. Precious metal prices are projected to decline in 2027 from record 2026 levels but to remain near all-time highs, although the outlook is subject to considerable uncertainty.

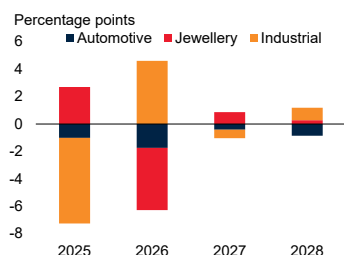
A. Precious metal prices



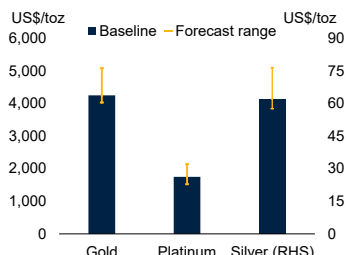
B. Drivers of gold demand



C. Platinum demand growth, by sector



D. Precious metal price forecasts for 2027



Sources: Consensus Economics; World Bank; World Gold Council; World Platinum Investment Council.

Note: avg. = average; f = forecast; RHS = right-hand scale; toz = troy ounce.

A. Monthly data. Last observation is September 2026.

B. Gold purchases are measured in metric tons. "Central banks" include other official-sector institutions, such as the IMF. Investment comprises bar and coin demand and gold-backed ETFs and similar products.

C. Contributions to annual growth in platinum demand by end use, in percentage points. Automotive demand refers primarily to platinum used in vehicle autocatalysts. Industrial demand includes chemical, petroleum, electrical and electronics, glass, medical, and other industrial applications. Data for 2026–28 are forecasts.

D. Blue bars show the World Bank Group's baseline forecast for 2027. Whiskers indicate the 10th–90th percentile range of private sector price forecasts for 2027, based on September 2026 Consensus Forecasts release.

resilience and potentially tempering vulnerability to supply disruptions. However, while demand for several critical minerals is projected to continue rising significantly, new mines typically take more than a decade to develop (figures 20.C and 20.D). Together with highly concentrated mining and processing, these factors leave critical mineral markets vulnerable to supply disruptions and price volatility in the coming years.

Precious metals

Recent developments and outlook

Precious metal prices declined in 2026Q3, partially unwinding a historic surge earlier in the year that had pushed gold, silver, and platinum prices to record highs (figure 21.A). Prices remained slightly below those peaks in October. The pullback was broad-based, partly reflecting rising bond yields, monetary policy tightening in the United States and other advanced economies, and a stronger U.S. dollar. Looking ahead, safe-haven investment in gold and central bank gold purchases are expected to cool from recent highs but remain supportive of elevated price levels. Silver and platinum prices are also expected to decrease somewhat as demand growth eases and supply conditions improve. The World Bank Group's precious metals price index is projected to increase by 40 percent in 2026, before declining by 8 percent in 2027 and 6 percent in 2028.

Gold prices fell by 5 percent in 2026Q3 (q/q) and weakened further in October, extending the previous quarter's decline after a surge in late 2025 and early 2026 that pushed prices to all-time highs earlier in the year. The decline reflected higher government bond yields internationally; expectations of a Federal Reserve policy rate increase, which materialized in mid-September; similar rate increases in several other advanced economies; a general appreciation of the U.S. dollar; and a partial unwinding of speculative positions. These forces outweighed sustained safe-haven demand and ongoing diversification of international reserves amid elevated geopolitical tensions. Global gold demand is expected to remain firm over 2027–28, supported by robust investment flows and central bank purchases, which together accounted for about half of gold demand in the first half of 2026, although both drivers are likely to moderate somewhat (figure 21.B). Jewelry demand, by contrast, has declined sharply since 2023 and is expected to remain weak amid elevated prices. On the supply side, mine production is expected to increase only modestly,

while recycling is expected to continue to expand. Following an anticipated 34 percent climb to a record annual high in 2026 (y/y), gold prices are projected to decline by 8 percent in 2027 and 6 percent in 2028, yet remain more than 75 percent above their 2021–25 average.

Silver prices dropped by 14 percent in 2026Q3 (q/q) and edged lower in October, following a record-setting rally earlier in the year. The recent fall in prices reflects an easing of physical market tightness, in addition to the increases in interest rates and dollar appreciation noted above. Demand is expected to soften over 2027–28, as high prices encourage efficiency gains and substitution toward copper-based metallization in photovoltaic applications, while also weighing on jewelry and silverware demand. These headwinds are expected to be partly offset by continued growth in silver demand from electronics, data centers, automotive applications, and power infrastructure. Mine production is likely to increase only modestly, while high prices will encourage further growth in recycling. Together with softer demand, supply gains are expected to progressively ease market tightness over 2027–28. Following a projected 76 percent (y/y) increase to a record annual average in 2026, silver prices are forecast to fall by 11 percent in 2027 and a further 7 percent in 2028.

Platinum prices decreased by 10 percent in 2026Q3 (q/q) and slipped further in recent weeks, extending the decline that began in the second quarter following a surge to all-time highs earlier in the year. The pullback reflected weakening investment demand, including substantial ETF outflows, as interest rate expectations rose. Looking ahead, overall supply is projected to improve gradually over 2027–28, with output in South Africa—the source of about 70 percent of mined platinum—little changed, while secondary supply is expected to rise further as still-high prices continue to encourage recycling. End-use demand is likely to remain generally resilient. In 2027, a recovery in jewelry demand after a sharp contraction in 2026 is expected to offset declines

in automotive and industrial uses, while stronger industrial demand is expected to offset a further decline in automotive consumption in 2028 (figure 21.C). Following an expected 53 percent increase in 2026 (y/y) to a record annual high, platinum prices are forecast to decline by 10 percent in 2027 and 8 percent in 2028 as market conditions continue to ease.

Risks

Risks to the outlook for precious metal prices are broadly balanced, although uncertainty remains elevated (figure 21.D). Intensifying geopolitical or trade-policy tensions could strengthen safe-haven demand for gold and silver beyond the baseline assumptions. In particular, the escalation of conflict in the Middle East, or the emergence of new geopolitical hotspots elsewhere, could drive prices higher. In addition, increased financial market volatility could stoke demand for precious metals as investors seek diversification benefits, as could further uptake of financial products offering retail investors leveraged exposure to precious metals. Central-bank gold purchases have increased in recent months after ebbing earlier in the year, and a further strengthening in official-sector demand could provide additional support for prices.

Downside risks to the price forecasts include higher-than-anticipated interest rates, particularly in the United States, and a stronger-than-anticipated U.S. dollar, reflecting a hawkish policy pivot. A durable easing of geopolitical tensions could reduce safe-haven demand. For silver and platinum, weaker global growth could reduce industrial demand and weigh on prices, as could sector-specific weaknesses, such as subdued automotive production for platinum, or rapid substitution away from silver for photovoltaic applications. Across precious metals, following the sharp price gains earlier in 2026, shocks to demand could be amplified by renewed profit-taking and rapid deleveraging from precious metals exposures.

Special Focus

Commodity Price Connections: How Does Volatility Spread?

Commodity price fluctuations are highly consequential for economic conditions in many emerging market and developing economies (EMDEs). Moreover, individual commodity prices often move in tandem with other commodity prices, so determining the origin of price volatility can be challenging. Using a measure of price volatility connectedness across 15 internationally traded commodities over 2006–26, commodity-specific factors are found to dominate price volatility: roughly two-thirds is commodity-specific, while about one-third is associated with shocks in other commodity markets. About half of measured connectedness reflects links within broad commodity groups. Industrial metals and food are the principal net-transmitting groups, while livestock and soft commodities are the main net receivers. At the individual commodity level, copper, maize, oil, and silver stand out as important bridges across groups. Connectedness rises during episodes of global stress: the global financial crisis, the COVID-19 pandemic, Russia's invasion of Ukraine, and the recent conflict in the Middle East are all associated with increases in cross-market connectedness. These results suggest that market-specific analysis can be complemented by monitoring cross-market transmission, particularly during periods of global stress.

Introduction

Commodity prices often move in tandem because many markets are exposed to common shifts in global activity, input costs, trade, and financial conditions. For instance, a slowdown in industrial activity can weaken demand for energy and industrial metals at the same time, while disruptions to energy supply can raise transport and fertilizer costs and spill into agricultural markets. Periods of financial or geopolitical stress can broaden these movements across otherwise distinct commodity groups (World Bank 2024).

Understanding these linkages is key because commodity price shocks affect inflation, fiscal revenues, trade balances, and food and energy security, particularly in emerging market and developing economies (EMDEs) with large commodity exposures (Balcilar, Usman and Agan 2024; World Bank 2026a). Most commodity analysis appropriately focuses on the supply and demand fundamentals of individual markets. While that approach remains important, it provides only a partial view when volatility associated with one commodity is linked to developments in other commodity markets.

This Special Focus examines price volatility connectedness across 15 internationally traded commodities in six groups—energy, food,

industrial metals, livestock, precious metals, and soft commodities (such as coffee and cotton)—using daily data from 2006 to 2026. Price volatility connectedness measures how much of the variance in a commodity's price volatility can be explained by shocks affecting prices in other commodity markets. The methodology applies the Diebold-Yilmaz connectedness framework to estimate how much volatility is transmitted across commodities and how these relationships evolve over time (Diebold and Yilmaz 2009, 2012, 2014; Demirer et al. 2018). The analysis addresses the following questions:

- How extensive is commodity price connectedness within and across commodity groups?
- Which individual commodities play particularly important roles in linking otherwise distinct commodity groups?
- How does commodity price connectedness change during episodes of global stress?

The analysis presents four main findings:

- *Commodity-specific factors remain the dominant source of price volatility, although cross-market transmission is important. On average, roughly two-thirds of commodity price volatility is*

commodity specific, while about one-third is associated with shocks in other commodity markets. In addition, about half of measured connectedness reflects links among commodities in the same group.

- *Price volatility transmission is highly uneven across commodity groups.* Industrial metals and food are the principal net transmitters, as they transmit much more volatility than they receive. Livestock and soft commodities are at the other end of the spectrum, as they receive considerably more volatility than they transmit. Energy and precious metals occupy an intermediate position as they transmit and receive broadly similar amounts of volatility.
- *Transmission is concentrated in a small number of individual commodity markets.* Copper, maize, oil, and silver stand out as important bridges across commodity groups. Their roles differ in persistence: silver ranks among the three largest net-transmitting commodities on almost 60 percent of trading days, maize in about half, copper in just over 40 percent, and oil the least frequently, reflecting its more episode-specific importance.
- *Connectedness rises, and the transmission network changes, during episodes of global stress.* The global financial crisis, the COVID-19 pandemic, Russia's invasion of Ukraine, and the recent conflict in the Middle East are all associated with increases in cross-market connectedness, although the commodity groups driving the transmission differ across episodes. This points to a commodity network whose transmission of price volatility intensifies and reconfigures, instead of a single permanent transmission hub.

Taken together, these findings suggest that analysis of individual commodity-market fundamentals can be usefully complemented by monitoring cross-market transmission, especially during periods of global stress.

Data and methodology

The analysis uses daily price data for 15 products in the Bloomberg Commodity Index, sorted into

six groups: energy, food, industrial metals, livestock, precious metals, and soft commodities. The products include crude oil and U.S. natural gas in the energy group; aluminum, copper, nickel, and zinc in the industrial metals group; maize, soybeans, and wheat in the food group; live cattle and lean hogs in the livestock group; gold and silver in the precious metals group; and coffee and cotton in the soft commodities group.³ The common sample spans May 5, 2006, the earliest date for which data are available, to June 26, 2026.

Price volatility is measured using the range-based estimator of Garman and Klass (1980), which combines daily opening, closing, high, and low prices. To capture relationships across a relatively large number of markets, the analysis estimates an elastic net vector autoregression model (appendix SF.1). This approach uses regularization to obtain stable estimates, while retaining the most informative cross-market relationships (Demirer et al. 2018; Zou and Hastie 2005).

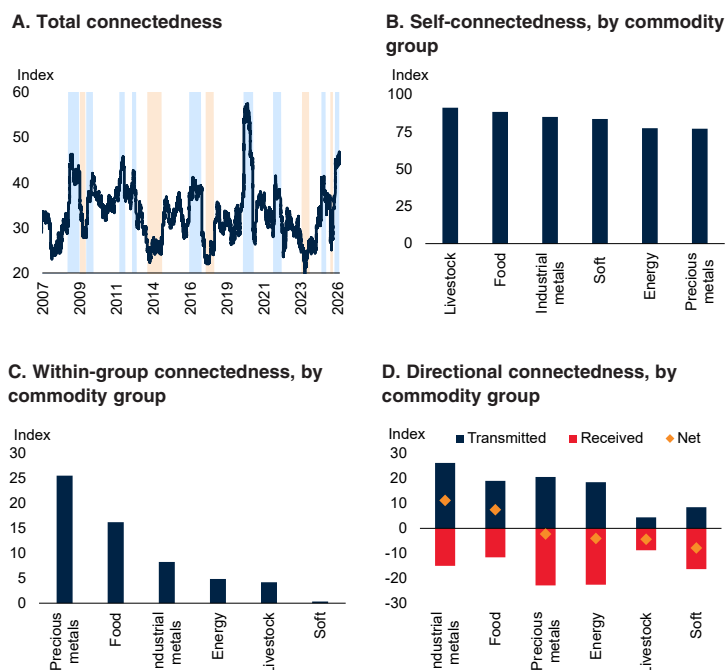
The estimated model is used to calculate how much of each commodity's future volatility is associated with shocks in its own market and with shocks in other commodity markets. The following types of connectedness are measured:

- *Total connectedness* describes the average cross-market price volatility transmission across commodities or commodity groups.
- *Self-connectedness* measures the share of price volatility of a given commodity or commodity group that is associated with shocks affecting its own price.
- *Directional connectedness* measures the volatility transmitted from a given commodity or commodity group to the rest of the commodity system (transmitted connectedness) or the volatility received from the rest of the commodity system (received connectedness).

³ Heating oil, gasoline, and soybean oil are in the Bloomberg Commodity Index but are excluded from the analysis because their close links to crude oil and soybeans could overstate connectedness. Sugar is omitted because regulation may affect its price.

FIGURE SF.1 Commodity price connectedness across markets and groups

Commodity price connectedness shows no clear sustained upward or downward trend over the past two decades. Self-connectedness indexes indicate that at least three-quarters of each group's price volatility is associated with shocks affecting that group. The strength of within-group connectedness varies across commodity groups, with precious metals showing the strongest connections and soft commodities, including coffee and cotton, the weakest. Commodity groups differ markedly in the amount of price volatility they transmit and receive. Industrial metals and food are net transmitters, livestock and soft commodities are net receivers, and energy and precious metals are broadly balanced between the two roles.



Source: World Bank.

Note: All indexes are obtained from the forecast error variance decomposition matrix of the VAR model incorporating one lag and 15 commodities. Last observation is June 26, 2026.

A. Total connectedness index computed from models estimated using windows of 150 observations starting on May 5, 2006. Blue shading indicates peaks, and orange shading indicates troughs in total connectedness.

B.C.D. Indexes computed from a model estimated using the whole sample.

B. Group self-connectedness indexes are computed by averaging elements on the main diagonal of the forecast error variance decomposition matrix for the commodities belonging to the same group.

C. Within-group connectedness indexes are computed by averaging elements off the main diagonal of the forecast error variance decomposition matrix for the commodities belonging to the same group.

D. Group directional connectedness indexes are computed by summing elements off the main diagonal of the group forecast error variance decomposition matrix. Summation takes place across columns for the received indexes, and across rows for the transmitted indexes. Net indexes are the difference between the respective transmitted and received indexes.

- *Within-group connectedness* describes the average volatility transmitted and received across commodities within a specific commodity group.

Full-sample estimates characterize the underlying structure of the commodity market, while rolling estimates show how connectedness changes over time and during major episodes of global stress.

The variance decomposition framework is useful for describing dynamic interdependence, but it does not by itself identify structural shocks.⁴

Extent of connectedness

The total connectedness index provides a simple measure of how much commodity price volatility is associated with shocks in other commodity markets rather than with developments specific to the commodity itself. An index value of zero indicates entirely commodity-specific volatility, while a value of 100 indicates that volatility is entirely associated with shocks elsewhere in the commodity system.

Commodity price volatility exhibits substantial connectedness, but considerably less than a fully connected system would imply. Over the sample period, cross-market transmission accounts for about one-third of total price volatility, while roughly two-thirds remains commodity specific, with the total connectedness index generally between 25 and 40 (figure SF.1.A). There is also little evidence of a sustained increase over the past two decades despite deeper trade links, financialization, and the expansion of commodity derivatives.

Much of this connectedness occurs within commodity groups. The self-connectedness index computed for the six groups indicates that at least three-quarters of each group's price volatility is associated with shocks affecting that group (figure SF.1.B). Food and livestock are among the more self-contained groups, as they display the highest values of the self-connectedness index, while energy and precious metals are relatively integrated with the broader commodity system. Once within-group transmission is removed, the total connectedness index nearly halves, falling from about 33 to roughly 16. This pattern is consistent with the structure of commodity markets. Commodities in the same group often

⁴ An advantage of using generalized forecast error variance decompositions (GFEVDs) is that they account for historical correlations, including contemporaneous comovement. The results are also invariant to the ordering of the variables even though ordering invariance does not establish causality, as discussed in Koop, Pesaran, and Potter (1996) and Pesaran and Shin (1998).

share similar production technologies, demand drivers, input costs, and substitution possibilities, and tend to be influenced by the same underlying fundamentals. By contrast, transmission across commodity groups typically operates through more indirect channels, such as common input costs, transportation networks, financial market linkages, or shifts in global demand, so that cross-group connectedness tends to be weaker. However, the strength of these within-group bonds varies across commodity groups. As an example, among energy commodities, transmission between oil and U.S. natural gas is relatively limited despite substantial co-production, as reflected in the low value of the within-group connectedness index, consistent with Cunado, Gabauer and Gupta (2024) (figure SF.1.C). The aggregate measures thus establish the extent of connectedness, but not which groups primarily transmit or absorb volatility or the different roles of commodities within a group.

Transmitters and receivers

Commodity groups can be similarly connected to the broader system while playing very different roles within it. Directional connectedness separates volatility transmitted to other groups from volatility received from them. The full-sample results show a clear hierarchy: industrial metals and food transmit more volatility than they receive; livestock and soft commodities receive more than they transmit; and energy and precious metals are broadly balanced between the two roles (figure SF.1.D).

Net connectedness—the difference between transmitted and received connectedness—provides the clearest summary of this hierarchy. Industrial metals and food have net connectedness indexes of about 11 and 7, respectively, and their transmitted connectedness is roughly 64 to 75 percent greater than their received connectedness. Livestock and soft commodities have net indexes of approximately -4 and -8 and transmit only about half as much volatility as they receive.

Industrial metals and food occupy the same end of the ranking for different reasons, and the distinction matters for how their roles should be

interpreted. Industrial metals' transmitting role may partly reflect the structure of their markets. Deep, globally integrated trading facilitates rapid price adjustment, potentially supporting transmission across commodity markets beyond direct production-chain linkages (Tiwari et al. 2022). Food commodities transmit volatility through a different mechanism. Crops compete for the same land, water, fertilizer, and transport capacity and are linked to one another through feed demand and biofuel margins. A disturbance to one crop can consequently propagate to the others through the reallocation of acreage and inputs, and beyond agriculture through fuel and feed markets. Transmission in this case may operate closer to a resource-constraint channel, which helps explain why two groups with little in common in terms of fundamentals both register as principal net transmitters (Karkowska and Urjasz 2024).

Livestock and soft commodities are at the other end of the spectrum, with more of their volatility associated with shocks arriving from elsewhere than with volatility transmitted outward. Energy and precious metals occupy an intermediate position: both have substantial transmitted and received connectedness, making them important conduits even though their full-sample net positions are comparatively small. These broad roles are persistent, although their intensity changes markedly across stress episodes.

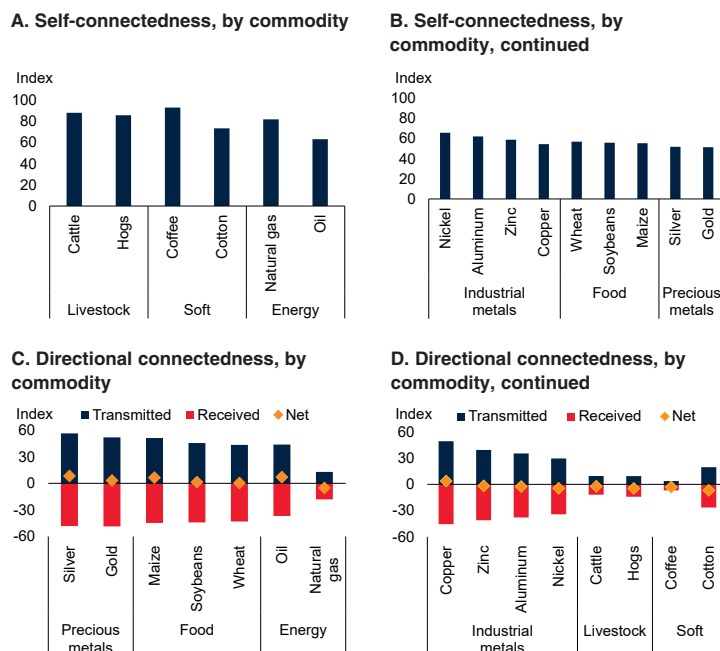
This hierarchy highlights why the origin and path of a commodity price shock are important. A disturbance entering through a net-transmitting group may be associated with broader subsequent volatility than a similar disturbance affecting a more insulated part of the system. At the same time, group-level measures do not reveal whether transmission is broadly shared among constituent markets or concentrated in a few individual commodities.

Pivotal commodities

Group-level directional connectedness and commodity-level pivotality answer different questions. Group results indicate whether an entire commodity group tends to send more

FIGURE SF.2 Connectedness of individual commodities

Commodity-specific factors remain the dominant source of price volatility across commodity markets, although their importance differs somewhat across individual commodities. In contrast, directional connectedness is more uneven, with copper, maize, oil, and silver standing out as important net transmitters of shocks to other commodity markets.



Source: World Bank.

Note: All indexes are obtained from the forecast error variance decomposition matrix of the VAR model incorporating one lag and 15 commodities. The model is estimated using the whole sample. Last observation is June 26, 2026.

A.B. Self-connectedness indexes are the elements on the main diagonal of the forecast error variance decomposition matrix.

C.D. Directional connectedness indexes are computed by summing elements off the main diagonal of the forecast error variance decomposition matrix. Summation takes place across columns for the received indexes, and across rows for the transmitted indexes. Net indexes are the difference between the respective transmitted and received indexes.

volatility to the rest of the system than it receives. Commodity-level analysis instead identifies individual markets that form bridges across otherwise distinct parts of the commodity system. On this measure, copper, maize, oil, and silver occupy especially important positions.

Commodity-specific factors remain the dominant source of price volatility across commodity markets but self-connectedness varies somewhat across individual commodities (figures SF.2.A and SF.2.B). Coffee, cattle, hogs, and natural gas retain relatively high self-connectedness, while copper, gold, silver, and the major food crops are more integrated. However, integration alone does not imply influence. The strongest positive net-connectedness values are concentrated in copper,

maize, oil, and silver. Gold records substantial positive net connectedness, while soybeans and wheat are more balanced between transmitting and receiving volatility (figures SF.2.C and SF.2.D).

Copper, maize, oil, and silver are therefore pivotal commodities bridging the commodity network for distinct reasons, but the persistence of their influence differs. Oil ranks among the three largest net transmitters in only 10 percent of trading days, reflecting its more episode-specific importance. Copper does so in just over 40 percent of trading days, maize in about half, and silver in almost 60 percent. Silver is structurally positioned in two parts of the system, combining financial and safe-haven demand with extensive industrial use, and therefore links precious metals to the industrial block irrespective of the prevailing state of the cycle (Mensi et al. 2023).

Copper bridges the network because industrial-metal demand, construction and manufacturing activity, and expectations about electrification are driven by a common set of global conditions; its bridging role is persistent but conditioned on the cycle. Maize is connected to other groups through explicit physical and contractual links—feed demand from livestock and ethanol blending in fuel markets—so its transmission is concentrated in periods when those margins move sharply (Nazlioglu, Erdem, and Soytas 2013). Oil connects energy with metals and agriculture through production and freight costs, biofuel incentives, inflation expectations, and portfolio positions, but these channels become quantitatively important mainly when energy supply itself is disrupted (Kilian 2009).

This typology reconciles two results that might otherwise appear inconsistent. Oil is among the strongest net transmitters in the full sample, yet it ranks among the three largest net transmitters far less frequently than copper, maize, or silver. The explanation is that oil's contribution is concentrated in a small number of high-volatility episodes rather than distributed evenly across the sample, whereas silver and, to a lesser extent, maize bridge the network more continuously through links that do not depend on episodes of global

stress. Pivotality in the commodity system is therefore not a single attribute: it reflects either a standing position between two groups or an episodic increase in the importance of channels that are otherwise latent.

Connectedness during episodes of global stress

Connectedness varies over time, rising during major global stress episodes and receding as pressures ease and commodity-specific fundamentals regain importance. The total connectedness index averages about 43 during the global financial crisis, the COVID-19 pandemic, Russia's invasion of Ukraine, and the recent Middle East conflict, compared with 32 outside of these events.⁵ During global stress episodes, common shocks—including those related to global activity, financial conditions, risk appetite, and transport costs—account for more commodity price volatility. As pressures ease, inventories, harvests, local supply conditions, and other commodity-specific fundamentals reassert themselves and connectedness recedes.

Greater connectedness during global stress reflects both stronger commodity-market linkages and shifts among transmitting and receiving groups. Transmission rises across groups, led by industrial metals, especially during COVID-19 and the Middle East conflict (figures SF.3.A and SF.3.B). Food transmission remains consistently high but shows fewer stress-related spikes, while transmission from energy and precious metals rose particularly sharply during COVID-19. Livestock and soft commodities remain marginal despite higher transmission during stress.

Global stress also broadens exposure to external volatility, with received connectedness above non-stress levels for every group (figures SF.3.C and SF.3.D). Energy and precious metals absorb substantial amounts of volatility across all four episodes while also transmitting volatility.

Industrial metals record the largest increase in received connectedness during COVID-19 and the Middle East conflict, while food's exposure rises most sharply during COVID-19. Even relatively self-contained groups, such as livestock and soft commodities, become more integrated during periods of global stress.

Net connectedness reveals persistent roles but also shifts between transmission and absorption (figures SF.3.E and SF.3.F). Industrial metals remain net transmitters in every stress episode, while food became a net receiver during COVID-19, illustrating how an increase in outward transmission can coexist with a net receiving position. Energy and precious metals are net transmitters during COVID-19 but net receivers in the other episodes. These role reversals during COVID-19 occurred as transport demand collapsed and global portfolios rebalanced. Livestock and soft commodities remain net receivers during all stress episodes, with livestock's net absorption increasing particularly sharply during COVID-19.

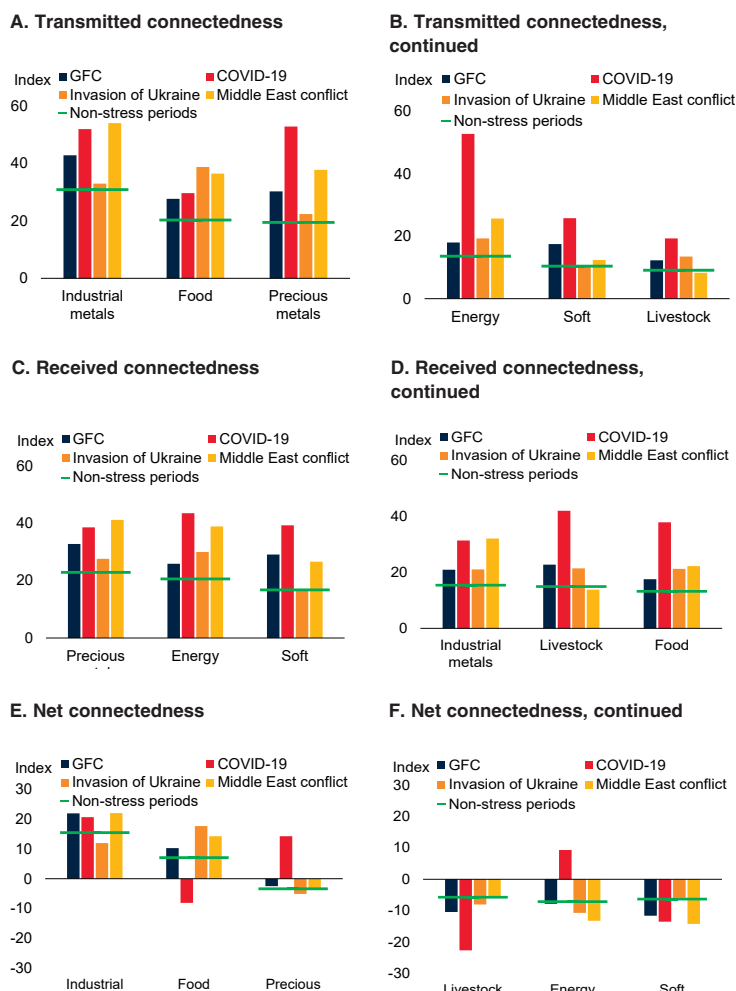
Differences in the economic setting may help explain how connectedness varies across periods of global stress. Global demand disturbances tend to increase the prominence of industrial metals and energy, whose prices respond closely to cyclical conditions. Supply disruptions and geopolitical shocks can strengthen connectedness in markets most directly exposed to these shocks, while portfolio reallocation can increase the prominence of precious metals.

Industrial metals' persistent transmitting role is consistent with their close connection to global economic activity. Metal consumption responds strongly to industrial production, as demand shocks tend to be more important drivers of metal prices than supply shocks (Stuermer 2018; World Bank 2021). For this reason, major movements in metal prices can provide insights about the state of the global economy, especially during periods of heightened economic volatility (Matsumoto, Pescatori and Wang 2023). As metal markets reflect changes in demand extending beyond the consumption of metals, their prices can provide information about the broader economy and

⁵ The indexes for the four periods of global stress analyzed here are computed using connectedness values from September 1, 2008 to June 1, 2009, for the global financial crisis; from March 1, 2020 to November 1, 2020, for the COVID-19 pandemic; from February 1, 2022 to September 1, 2022, for Russia's invasion of Ukraine; and from March 1, 2026 to June 26, 2026, for the Middle East conflict.

FIGURE SF.3 Connectedness during global stress

Commodity-market connectedness tends to increase during periods of global disruption, although the magnitude of these effects varies across groups. Industrial metals generally account for a larger share of transmitted connectedness and remain net transmitters in each of the four episodes considered, while livestock and soft commodities consistently receive more volatility than they transmit. Food commodities generally act as net transmitters, whereas energy and precious metals are net receivers in most of the episodes considered, notwithstanding their more balanced position over the full sample. The roles of energy, food, and precious metals reversed during COVID-19, when energy and precious metals became net transmitters, while food became a net receiver.



Source: World Bank.

Note: All indexes are obtained from the forecast error variance decomposition matrix of the VAR model incorporating one lag and 15 commodities. The model is estimated using windows of 150 observations starting on May 5, 2006. Last observation is June 26, 2026. GFC = global financial crisis. The indexes for the four periods of global stress analyzed here are computed using connectedness values from September 1, 2008 to June 1, 2009, for the global financial crisis; from March 1, 2020 to November 1, 2020, for the COVID-19 pandemic; from February 1, 2022 to September 1, 2022, for Russia's invasion of Ukraine; and from March 1, 2026 to June 26, 2026, for the Middle East conflict. A.-F. Group directional connectedness indexes are computed by summing elements off the main diagonal of the group forecast error variance decomposition matrix. Summation takes place across columns for the received indexes, and across rows for the transmitted indexes. Net indexes are the difference between the respective transmitted and received indexes.

capture uncertainty about demand conditions shared across commodity markets.

Food's changing net position is consistent with shifts in the origin and direction of shocks linking agriculture to other commodity markets. During COVID-19, collapsing transport activity weakened biofuel demand, while falling energy prices reduced agricultural input costs (Serra and Zilberman 2013; Weersink et al. 2021). Crop markets' exposure to these external disturbances is consistent with food's net-receiving position. During Russia's invasion of Ukraine, uncertainty about agricultural production and exports generated shocks within food markets, with potential transmission through livestock feed costs and biofuel production margins, supporting food's role as a net transmitter (Karkowska and Urjasz 2024; World Bank 2022).

Energy's changing net role may reflect differences in shock origins and the responses of oil and U.S. natural gas. During COVID-19, collapsing transport demand and storage constraints disrupted the oil market, with the oil price becoming a net volatility transmitter around the April 2020 negative-price event (Corbet et al. 2021). The U.S. natural gas market amplified disruptions in the oil market as it faced weaker industrial demand, while cuts in oil production reduced associated gas supply. By contrast, uncertainty about economic activity and fuel demand during conflicts can feed volatility back into energy markets. Crude oil was a net receiver during Russia's invasion of Ukraine, confirming the findings of Biswas, Jain, and Maitra (2024). International pressures can reach the U.S. natural gas market through liquefied natural gas (LNG) exports, but LNG plants operating near capacity limits transmission to domestic natural gas prices. As only a limited share of U.S. natural gas production is exported, domestic production, weather, and storage remain important drivers of U.S. natural gas prices.

Recent Middle East conflict

The recent Middle East conflict and related restrictions on shipping through the Strait of

Hormuz have affected a broad range of markets, including energy products, inputs for agricultural, and industrial commodities (World Bank 2026b; Geldard 2026). Supply constraints raised prices as buyers sought alternative sources, prompting substitution and demand adjustments where possible (IEA 2026e). These channels illustrate how a disruption in one part of the commodity system can trigger broader cross-market impacts. Several of these channels run through energy inputs and transport. Competition for LNG cargoes can link regional gas markets, while fuel switching extends adjustment to other energy sources. Natural gas is also a key input into ammonia production, while disruptions to the supply of gas, ammonia, urea, and sulfur can raise fertilizer and transport costs and ultimately affect planting decisions and crop availability (World Bank 2026b; IEA 2026e).

The connectedness estimates describe changes in transmitted volatility rather than causal effects. In the months following the outbreak of the conflict in the Middle East, oil and aluminum recorded the largest increases in transmitted connectedness, followed by gold, wheat, and silver. By contrast, soybeans showed little change, while maize recorded a more modest increase (figure SF.4.A). The physical channel runs through shipping and energy inputs and is visible in oil and aluminum, whose trade and production are exposed to shipping disruptions through the Strait of Hormuz and energy costs. It also affects maize and wheat indirectly through fertilizer costs. The prominence of precious metals is consistent with a financial channel operating alongside physical supply disruptions, as geopolitical stress can prompt portfolio reallocation toward assets perceived as safe havens (Baur and Smales 2020). This channel is visible in gold and silver, whose transmitted connectedness rose considerably despite no direct physical exposure to the disruption. This is consistent with the broader finding that precious metals can act as conduits within the commodity system: they respond to global risk conditions as well as commodity-specific fundamentals, and, in doing so, transmit those conditions onward.

The 2015-16 El Niño episode

El Niño, the warm phase of the El Niño–Southern Oscillation (ENSO), is a major source of weather variability affecting food and other commodity markets. Episodes vary widely in intensity, and only a minority—eight out of 26 episodes since 1950—have been classified as strong or very strong.⁶ Commodity prices are higher during ENSO episodes than during neutral periods (box 1). However, price sensitivity differs from volatility transmission: a large movement in a commodity's own price does not necessarily make it a stronger source of volatility for other markets.

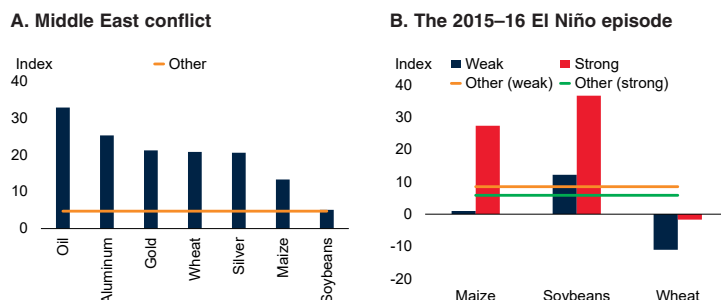
The results indicate that the strong phase of the 2015-16 El Niño was associated with much larger increases in transmitted connectedness than the weak phase (figure SF.4.B). Soybeans recorded the largest increase in connectedness during the strong phase, followed by maize. During the weak phase, maize transmission was broadly unchanged, while the increase for soybeans was similar to that for non-food commodities. Wheat transmission declined in both phases, but more sharply during the weak phase. Because connectedness is measured in relative terms, this decline indicates that wheat price volatility had less influence on other markets than did maize and soybean price volatility, or that market-specific shocks became more important (Diebold and Yilmaz 2012). This pattern is consistent with the limited effect of El Niño on wheat prices (box 1).

Physical links provide plausible explanations for the larger increases in maize and soybean transmission. Maize supplies livestock feed and ethanol, while soybean crushing produces soymeal for feed and soyoil for food and biofuels. Uncertainty about either crop's availability can alter feed costs, substitution between ingredients, and biofuel feedstock costs. Competition for land provides another connection: farmers can reallocate acreage as relative profitability changes, linking expectations about one crop's harvest to another's prospective supply. Price and volatility

⁶ According to NOAA's Climate Prediction Center, episodes are classified by the magnitude of the Relative Oceanic Niño Index (RONI), as weak (0.5°C to <1.0°C), moderate (1.0°C to <1.5°C), strong (1.5°C to <2.0°C), or very strong (≥2.0°C).

FIGURE SF.4 Recent shocks and commodity connectedness

Following the start of the conflict in the Middle East in late February 2026, transmitted connectedness increased most for aluminum, gold, oil, silver, and wheat, indicating a larger role for these commodities in the propagation of price volatility across markets. These results capture changes in the relative importance of volatility transmission rather than causal effects of the conflict itself. El Niño is also associated with shifts in connectedness, particularly for agricultural commodities, with the strong phase of the 2015–16 episode linked to notably larger increases in transmitted connectedness for maize and soybeans.



Source: World Bank.

Note: All indexes are obtained from the forecast error variance decomposition matrix of the VAR model incorporating one lag and 15 commodities. The model is estimated using windows of 150 observations starting on May 5, 2006. Last observation is June 26, 2026.

A. Bars show the change in average transmitted connectedness between January–February 2026 and March–June 2026 for selected commodities. The yellow line shows the average change for all other commodities.

B. The 2015–16 El Niño began in November 2014 and persisted through April 2016. Bars show the change in average transmitted connectedness in the weak/moderate (November 2014–July 2015) and strong/very strong (August 2015–February 2016) phases of the 2015–16 El Niño compared to the neutral period (January–October 2014). The yellow and the green lines show the average change for all other commodities.

transmission between agricultural and energy markets allow weather disturbances to propagate through livestock, edible oil, and energy markets, helping explain the greater transmission associated with strong El Niño episodes.

Conclusion and policy implications

Commodity prices are connected but far from fully integrated. Over the past two decades, about one-third of price volatility has been associated with shocks in other commodity markets, while roughly two-thirds remained commodity specific. Moreover, about half of measured connectedness reflects links within broad commodity groups, underscoring the continuing importance of market- and sector-specific fundamentals.

The direction of transmission is highly uneven. Industrial metals and food are the principal net-transmitting groups, whereas livestock and soft

commodities are predominantly net receivers. Energy and precious metals are more balanced conduits. At the individual-market level, copper, maize, oil, and silver stand out as important bridges across commodity groups, although the persistence and timing of their roles differ.

Connectedness also intensifies and reconfigures during episodes of global stress. The recent Middle East conflict illustrates this: disruptions to shipping through the Strait of Hormuz raised transmitted connectedness most for aluminum, oil, gold, silver, and wheat, reflecting both a physical channel operating through energy and fertilizer costs and a financial channel operating through portfolio shifts toward safe-haven assets.

Broad shocks raise cross-market transmission during periods of stress, but the groups and commodities that become most important vary with the nature of the episode. The commodity system therefore has a recognizable underlying structure without a single permanent hub. The structure of that system is best understood in terms of how shocks travel rather than where they originate. Some markets appear to transmit because they price global conditions early and are read as signals; others because they share physical inputs and constraints with neighboring markets; and a small number bridge otherwise distinct groups either continuously, by virtue of serving two sets of end-users, or episodically, when latent channels become binding. Distinguishing among these mechanisms can help in assessing which disturbances are likely to remain contained and which are likely to be associated with broader cross-market adjustment.

These findings suggest that policymakers in EMDEs should continue to undertake detailed analysis of supply, demand, inventories, trade, logistics, and policy conditions in individual markets, but this analysis can be complemented by close monitoring of cross-market transmission, particularly during episodes of stress. This perspective may be especially relevant for EMDEs that are highly exposed to commodity prices through inflation, fiscal revenues, external balances, or food and energy security.

APPENDIX SF.1 Methodological approach

Underlying VAR model and variance decomposition

The assessment of connectedness between commodity markets is based on the framework developed by Diebold and Yilmaz (2012, 2014), which quantifies the extent to which shocks in one market or commodity influence others within a multivariate system. The Diebold and Yilmaz connectedness metrics are derived from the forecast error variance decomposition of an elastic net VAR model of the range-based realized volatility of the prices for 15 components of the Bloomberg Commodity Index over the period ranging from May 5, 2006, to June 26, 2026. Following Garman and Klass (1980), the range-based realized volatility for each commodity price is defined as:

$$\hat{\sigma}_{it}^2 = 0.511(H_{it} - L_{it})^2 - 0.019[(C_{it} - O_{it})(H_{it} + L_{it} - 2O_{it}) - 2(H_{it} - O_{it})(L_{it} - O_{it})] - 0.383(C_{it} - O_{it})^2,$$

where C_{it} is the closing price, H_{it} is the highest daily price, L_{it} is the lowest daily price, and O_{it} is the opening daily price for commodity i on day t , all expressed in natural logs. The natural logarithm of range-based realized volatility is used in this study as it tends to have an approximately Gaussian distribution.

The methodology is implemented through four steps:

1. Estimate the VAR using an adaptive elastic net (Demirer et al. 2018), implemented equation-by-equation via penalized regression.⁷
2. Identify the estimated VAR using the generalized approach of Koop et al. (1996) and Pesaran and Shin (1998).

⁷ The VAR is estimated on log range-based volatilities, so innovations can be interpreted as approximately proportional changes in volatility, which also improves cross-series comparability. Because elastic net penalization is scale-sensitive, predictors are standardized prior to estimation. Following Diebold et al. (2018) the elastic net mixing parameter α is set equal to 0.5, equally weighting LASSO (ℓ_1) and ridge (ℓ_2) penalties. The regularization parameter λ is set equal to 0.25.

3. Compute the FEVD matrix at a forecast horizon of 24 days, $H=24$.
4. Summarize the FEVD matrix through the connectedness metrics.

VAR model

The analysis begins by considering an N -dimensional vector of commodity return volatilities $X_t = (X_{1,t}, X_{2,t}, \dots, X_{N,t})'$, where $X_{i,t}$ represents the range-based realized return volatility of commodity i at time t . The dynamics of X_t are modeled using a VAR model of order p :

$$X_t = \sum_{k=1}^p A_k X_{t-k} + \epsilon_t,$$

where A_k are $N \times N$ coefficient matrices, p is the number of lags, and $\epsilon_t \sim N(0, \Sigma)$ is a vector of independently and identically distributed error terms with a covariance matrix Σ . The adaptive elastic net estimation not only shrinks and selects parameter estimates but also selects a model consistent with the best Kullback–Leibler approximation to the true data-generating process.

Variance decomposition

The decomposition of the forecast-error variance of the VAR model was used to quantify the contribution of shocks in one commodity to the forecast-error variance of other commodities. The generalized forecast error variance decomposition (GFEVD) approach of Pesaran and Shin (1998) and Koop et al. (1996) is used in this study. The GFEVD, which relies on a largely data-based identification scheme, is invariant to variable ordering. It allows for correlated shocks while accounting for the historical correlation observed among them. The entry d_{ij}^{gH} on the i^{th} row and j^{th} column of the H -step generalized variance decomposition matrix D^{gH} denotes the fraction of the H -step-ahead forecast error variance of variable i attributable to shocks in variable j . The term d_{ij}^{gH} can be computed as

$$d_{ij}^{gH} = \frac{\sigma_j^{-1} \sum_{h=0}^{H-1} (e_i' A_h \Sigma e_j)^2}{\sum_{h=0}^{H-1} (e_i' A_h \Sigma A_h' e_i)},$$

where e_i is a selection vector that picks the i^{th} element, A_h represents the impulse response

functions derived from the VAR, Σ is the covariance matrix of the shock vector in the non-orthogonalized VAR, and σ_j is the j^{th} diagonal element of Σ .

Connectedness metrics

From the off-diagonal entries of the GFEVD matrix D^{gH} , the following metrics can be computed, as discussed at more length in Diebold and Yilmaz (2012, 2014).

Pairwise connectedness

Each i, j off-diagonal element of the GFEVD matrix D^{gH} conveys the pairwise connectedness from j to i which can be indicated as:

$$C_{j \rightarrow i}^H = d_{ij}^{gH}.$$

where $C_{j \rightarrow i}^H \neq C_{i \rightarrow j}^H$, as it should be expected for any non-symmetric matrix. From each pair, the net pairwise connectedness can be easily defined as:

$$C_{i,j}^H = C_{i \rightarrow j}^H - C_{j \rightarrow i}^H$$

Self-connectedness

The elements on the main diagonal of the GFEVD matrix represent a specific case of pairwise connectedness D^{gH} , which represents the fraction of the H -step-ahead forecast error variance of variable i attributable to shocks to that variable. This is the self-connectedness index indicated in this study.

Total (system-wide) connectedness

The total connectedness index measures the extent to which the forecast error variance across all elements in the system is influenced by shocks originating in other elements. It is calculated as the sum of all off-diagonal elements in the variance decomposition matrix, with higher values indicating greater connectedness:

$$TC^H = \frac{1}{N} \sum_{i,j=1, i \neq j}^N d_{ij}^{gH}.$$

Directional connectedness

Three directional connectedness metrics can be computed to capture the relationships between one element in the system and the others, distinguishing among “transmitted,” “received,” and “net” connectedness. In this study, these directional measures identify the commodities that are major transmitters or receivers of shocks within the commodity market.

Received connectedness

This metric measures the contribution of shocks affecting all other elements j , with $j \neq i$, to the forecast error variance of element i :

$$C_{\bullet \rightarrow i}^H = \sum_{j=1, j \neq i}^N d_{ij}^{gH}.$$

Transmitted connectedness

This metric measures the contribution of shocks affecting element i to the forecast error variance in all other elements:

$$C_{i \rightarrow \bullet}^H = \sum_{j=1, j \neq i}^N d_{ij}^{gH}.$$

Net connectedness

The net connectedness metric for each element i is calculated as the difference between the transmitted and the received connectedness:

$$C_{i, \text{net}}^H = C_{i \rightarrow \bullet}^H - C_{\bullet \rightarrow i}^H.$$

A positive value of $C_{i, \text{net}}^H$ indicates that commodity i is a net transmitter of shocks, while a negative value indicates that a commodity is a net receiver.

Within-group connectedness

Within-group connectedness describes the average transmitted and received connectedness across commodities within a specific commodity group.

$$C_W^H = \sum_{j=1, j \neq i}^N \frac{d_{ij}^{gH}}{N(N-1)}$$

with commodities i and j belonging to the same commodity group.

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A confluence of shocks is hitting commodity markets. The Middle East conflict has dealt a historic blow to oil production. Hostilities between Russia and Ukraine are adding to challenges in energy and food markets. The ongoing El Niño, a very strong episode, threatens harvests of some agricultural commodities. Against this backdrop, overall commodity prices are expected to surge by 23 percent in 2026, led by a 32 percent increase in energy prices, with Brent oil averaging \$91 per barrel. Food commodity prices are projected to rise 10 percent in 2026, while average metal prices are on track to reach an all-time high. In 2027, commodity prices are forecast to decline by 7 percent overall, with Brent oil receding to \$79 per barrel, although food commodity prices are anticipated to climb another 7 percent. The forecast assumes no major escalation of the Middle East conflict, easing constraints on commodity exports from Russia and Ukraine, and manageable crop losses from El Niño. In an adverse scenario where none of these assumptions hold, Brent oil could average \$105 per barrel in 2027, with food prices exceeding their 2022 level. Global inflation would then be higher, and food insecurity worse.

The Special Focus in this edition analyzes commodity market connectedness, mapping how price volatility propagates. It finds that commodity-specific factors dominate price volatility on average, but connectedness rises during episodes of market stress. Industrial metals typically transmit the most volatility, but the relationships are not static. After the onset of the Middle East conflict in early 2026, volatility transmission via oil prices surged.

The World Bank Group's *Commodity Markets Outlook* is published twice a year, in April and October. The report provides detailed market analysis for major commodity groups, including energy, metals, agriculture, precious metals, and fertilizers. Price forecasts for 46 commodities are presented together with historical price data. Commodity price data updates are published separately at the beginning of each month.

