

Bankable insights

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When shocks don't fade: How volatility is reshaping food and agribusiness supply chains

Executive summary

- **Volatility is no longer just occasional.**
Food and agribusiness supply chains are operating in an environment where shocks arrive more frequently, overlap more often and transmit faster through costs, logistics and cash flow, even when food supply itself remains adequate.
- **Pressure is financial before it is operational.**
Input costs, freight timing and working capital requirements now adjust far more quickly than revenues, placing strain on liquidity and balance sheets well ahead of margins.
- **Structure matters more than scale.**
Businesses with flexible pricing, diversified logistics and funding headroom are better positioned to absorb disruption, while those reliant on stable inputs, predictable freight and tight balance sheets are more exposed.

A system no longer returning to normal

Global food and agribusiness supply chains are absorbing larger and more frequent cost shocks than at any point in recent decades, as volatility in energy markets, fertiliser pricing and freight conditions increasingly shape how food is produced, processed and moved around the world. Rather than isolated events that resolve and allow conditions to reset, these pressures now recur often enough that costs, logistics and financing requirements adjust before previous disruptions have fully unwound.

Recent experience illustrates this shift clearly. Nitrogen fertiliser prices have more than doubled over short periods, bulk shipping delays have stretched from days into weeks, and global freight routes have been repeatedly reshaped in response to geopolitical risk.

Importantly, many of these adjustments have occurred without major disruptions to food supply itself, meaning pressure has emerged first through input costs, timing and working capital rather than through shortages on supermarket shelves.

Volatility moving faster through a more connected system

Food supply chains have always been exposed to disruption, from grain shortages in ancient Rome to droughts across Australia and disease outbreaks such as African Swine Fever in China. What differentiates the current environment is not the presence of volatility, but the speed, frequency and scale at which it now moves through a far more connected global system, leaving less time for balance sheets and operating models to reset between shocks.

The past decade reinforces this point. Trade tensions reshaped global agricultural flows, while African Swine Fever reduced China's pig herd by an estimated 40 percent, triggering a sharp fall in domestic feed demand followed by a rapid rebuild that drove increased imports of feed grains and oilseeds.

COVID disrupted labour and freight at the same time, and the Ukraine conflict unsettled grain, fertiliser and energy markets where Russia and Ukraine together accounted for close to 30 percent of globally traded wheat. More recently, shipping disruptions in the Red Sea have extended transit times into Europe by 10 to 20 days.



Overlapping shocks and compressed adjustment periods

While none of these events are unprecedented in isolation, their proximity has compressed adjustment periods and increased financial strain, even where businesses ultimately adapted.

The surge in fertiliser prices in the early 2020s provides a clear illustration of how quickly pressure can now build. Nitrogen fertiliser delivered to Australia moved from around A\$500 per tonne to more than A\$1,300 per tonne during 2021 and 2022, driven largely by energy market disruption following Russia's invasion of Ukraine and reduced gas availability in Europe.

Freight costs rose at the same time and delivery times lengthened. Although many businesses initially treated this as a temporary shock, it increasingly reflects a system in which one source of disruption fades only partially before another emerges.

From temporary shocks to a persistent operating environment

Current tensions in the Middle East sit squarely within this broader pattern. They demonstrate how geopolitical risk can translate rapidly into higher costs, slower logistics and tighter cash flow across the food and agribusiness value chain, rather than representing a standalone event that can be assessed in isolation.



Why this matters: energy, fertiliser and freight flow straight into costs

The Middle East exerts a powerful influence on global food systems not through food exports, but through its central role in the energy, fertiliser and shipping networks that underpin the cost of producing and moving food. When geopolitical risk rises in the region, the effects are transmitted quickly into fuel prices, fertiliser markets and freight conditions, lifting costs across farming, processing, manufacturing and retail supply chains.

Around 30 percent of global oil supply comes from the region, alongside a significant share of global gas exports. Gas is the primary feedstock for nitrogen fertiliser, which underpins crop yields and feed availability by replenishing soil nutrients and supporting plant growth.

The region is also a major exporter of fertiliser itself, which means that changes in energy markets are reflected not only in price, but at times in availability, influencing planting decisions and input use across agricultural systems.

Shipping disruption and working capital pressure

Shipping risk adds another layer of exposure. The Strait of Hormuz carries around 20 percent of global oil trade, and heightened risk in that corridor affects freight rates, insurance premiums and routing decisions.

Even where vessels continue to move, longer routes and higher costs flow directly into the price of moving goods, increasing both transport expenses and the capital tied up while goods are in transit.

For Australian food and agribusiness, this exposure is immediate and material. With around 90 percent of fertiliser imported, diesel used across farming, transport and processing, and export supply chains dependent on reliable global shipping, movements in these cost drivers are felt quickly and broadly, well before any change in food supply or consumer demand becomes visible.

Geography as both risk and opportunity

Australia and New Zealand's geographic position creates both risk and opportunity for food and agribusiness supply chains. Distance from major markets increases exposure to shipping, fuel and trade corridor disruption.

However, relative geopolitical stability, strong biosecurity and counter seasonal production support differentiation through reliability, allowing Australian exporters to continue supplying protein and grain into Asia during periods when Northern Hemisphere supply is disrupted. It also enables products such as chilled beef, dairy and infant formula to keep flowing into markets like Japan and Southeast Asia, where buyers place a premium on consistent delivery from trusted origins.

China as an amplifier of supply chain dynamics

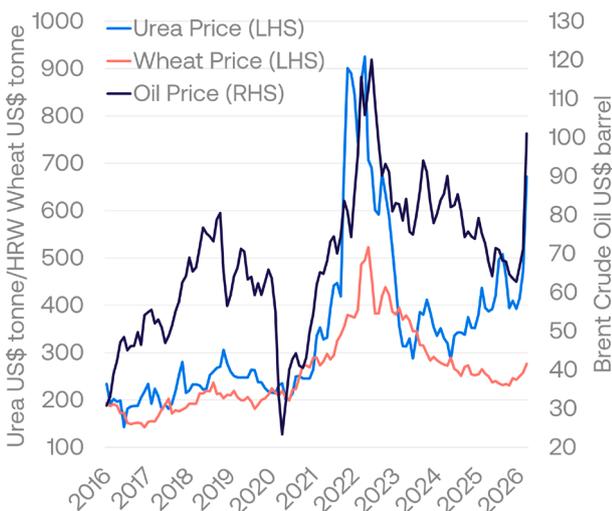
China further amplifies these dynamics. As the world's largest importer of many agricultural commodities, relatively small changes in Chinese purchasing patterns, stock management or policy settings can materially affect prices and freight flows through regional supply chains, including those linked to Australia and New Zealand.

Why this differs from Ukraine

This also explains why the current situation differs from the Ukraine conflict. In 2022, grain supply was directly constrained, which pushed up global prices and provided some revenue offset for grain producers despite higher costs.

Today, global wheat stocks remain above 260 million tonnes, and supplies of wheat, corn and other major grains are relatively comfortable across key exporters. Pressure is instead coming through input costs, which tend to rise quickly but are slower to be passed through into revenue because food prices are often set through contracts and competitive retail markets.

Urea Vs Oil Vs Wheat Price 2016 - 2026 (March)



Source: World Bank, ANZ

Fertiliser (urea), energy (oil) and wheat prices surged together in 2021–22, but urea experienced far larger and faster price swings than oil. Recent moves reinforce that fertiliser markets remain structurally prone to sharp repricing, amplifying margin and risk pressures across agricultural supply chains.

How it plays out: from farm costs to food prices

Fertiliser provides one of the clearest examples of how volatility translates into real decisions across the food system. Without fertiliser, crop yields would fall, reducing grain supply and increasing feed costs for livestock producers, which would ultimately lift food prices.

As a result, farmers generally continue to apply fertiliser even when prices rise sharply, although they may adjust timing or application rates where possible.

The financial impact of this behaviour is immediate and material. A cropping business might see its fertiliser bill increase from around A\$100,000 to A\$180,000 if prices move from A\$500 to A\$900 per tonne.



Input costs and early cash flow pressure

That additional A\$80,000 must be funded months before harvest, increasing borrowing or reducing available cash at a time when other costs are also rising.

Fuel reinforces this effect across the supply chain. Diesel often accounts for around 10–15 percent of farm operating costs and increases flow directly into transport and processing.

A grain grower pays more to move wheat to port, a dairy processor pays more to collect milk, and a food manufacturer pays more to distribute products to retailers, with these costs accumulating as food moves from farm to processor to consumer.

Costs rising faster than revenue

The impact becomes more pronounced at the processing and manufacturing stage. A flour mill buying wheat faces higher grain prices alongside higher energy costs, while a dairy processor paying more for milk may need to wait months before supermarket prices adjust.

A meat processor exporting beef faces higher livestock costs, driven partly by higher feed prices, at the same time as freight and insurance costs increase. In each case, costs rise quickly while revenue adjusts more slowly.



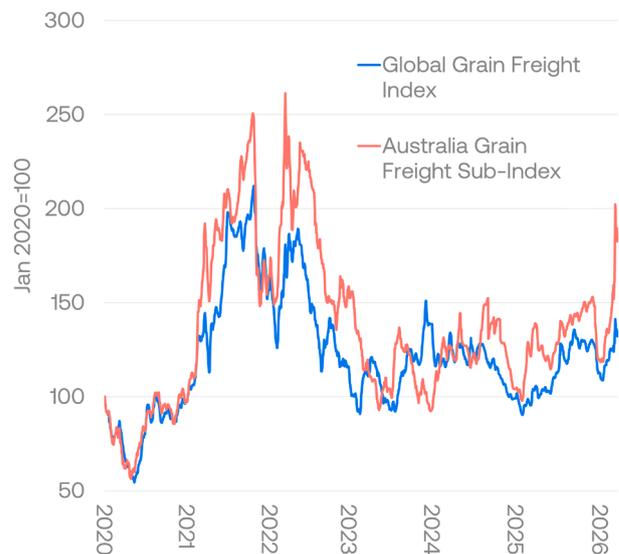
Freight and time: turning logistics into finance

Freight is where these pressures become more difficult to manage because timing, reliability and cost often shift together rather than independently. Disruptions over recent years, including port congestion and rerouting around higher risk regions, have extended shipping times, with some routes adding 10 to 20 days compared with historical norms.

For exporters, those delays translate directly into cash flow pressure. For example, a shipment of A\$20 million of dairy or meat products that takes longer to arrive delays payment and ties up capital for longer, creating a clear funding cost in a higher interest rate environment, particularly for businesses managing large volumes or thin margins.

There are also operational consequences. For perishable goods such as dairy and meat, longer transit times reduce flexibility and increase quality risk, while for bulk commodities such as grain, the impact is less visible but still financial, particularly when higher prices mean more capital is tied up in inventory while it is in transit. What was once treated primarily as a logistics issue has increasingly become a balance sheet issue, with time affecting both cost and risk.

Global and Australian Grains Freight Index 2020 - 2026 (Jan 2020=100)



Source: International Grains Council, ANZ

The grains freight index tracks how the cost of shipping bulk grains and oilseeds by sea changes across major trade routes, capturing both price and reliability pressures in the logistics system. Divergence between Australian and global routes highlights how local disruptions can alter delivery timing and cash flow dynamics for exporters and processors, even when broader freight conditions appear stable.



Where volatility shows up first: working capital pressure

One of the clearest lessons from recent years is that volatility often impacts cash flow well before profit. When prices rise, inventory becomes more expensive to replace or carry, and that increase must be funded immediately.

For example, if wheat prices move from A\$300 per tonne to A\$450 per tonne, a flour mill holding 100,000 tonnes faces an increase in the value of inventory it must finance from A\$30 million to A\$45 million.

Even where some inventory has already been paid for, replacement stock and ongoing procurement occur at higher prices. This increases funding requirements despite no change in production volumes or demand.

Rising costs across the value chain

This pattern can be seen across the food and agribusiness landscape. Feedlots face higher grain costs, which lift cattle prices as feeding costs rise, while dairy processors pay higher farmgate milk prices before retail prices adjust.

Food manufacturers encounter increases in ingredients, packaging and freight at the same time. In each case, costs rise quickly while revenue adjusts more slowly. The result is that businesses can appear profitable over a full year, yet still experience periods where cash flow is under pressure.

Timing mismatches between cost and revenue

Costs tend to move quickly, revenue takes longer to adjust, and the gap between the two must be actively managed. This timing mismatch has become a defining feature of the current operating environment.

From disruption to strategy: what now matters

The broader shift is that food supply chains are now more often exposed to multiple risks at once and have less capacity to absorb them. Australia exports around 70 percent of its agricultural production by value, which means global demand, freight conditions and exchange rates all influence returns.

At the same time, supply chains rely heavily on imported inputs such as fertiliser, fuel and agrochemicals. These dependencies increase exposure to global disruption.

Recent experience shows how these pressures combine in practice. The Ukraine conflict affected grain and fertiliser markets, COVID disrupted labour and logistics simultaneously, shipping disruptions extended transit times and current Middle East tensions are again affecting energy and input costs.

Overlapping shocks and reduced adjustment time

These events overlap, increasing their combined impact and reducing the time available to adjust.

In this environment, differences between businesses become more apparent. A processor with strong liquidity can absorb higher working capital requirements, while an exporter with multiple shipping and storage options can reroute and hold product when needed.

Why structure matters more than scale

A manufacturer with flexible pricing arrangements can pass through costs more quickly. By contrast, businesses with tighter balance sheets or more rigid supply chains are more exposed, even where underlying demand remains strong.

This is shifting the focus from scale alone towards flexibility, funding capacity and speed of response.

Across the sector, businesses are adapting. Pricing cycles are shortening, contracts are increasingly linked to input costs and greater attention is being paid to working capital and funding capacity.

Resilience over efficiency

Supply chains are being diversified, even where this adds cost, to reduce reliance on single routes or suppliers. While these adjustments may reduce efficiency in stable conditions, they provide vital resilience when volatility increases.

The current Middle East tensions are another reminder of how quickly global events can affect food and agribusiness. They are also part of a broader shift in how the system now operates.



Planning for volatility as a constant

For food and agribusiness companies, the question is no longer whether disruption will occur, but how it will affect costs, how quickly it will impact cash flow and whether the business is structured to absorb it.

Businesses that plan for volatility as a constant rather than an exception are better positioned to manage disruption and maintain performance over time.



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