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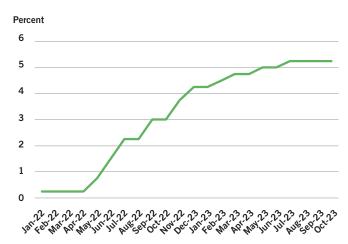
TIME AND TIME AGAIN, the U.S. economy demonstrates the innate strength and adaptability that makes it the envy of the developed world. Despite multiple

systemic shocks in recent years — COVID-19, trade conflict with China, the Russia-Ukraine war, surging inflation and interest rates — our economy has performed strongly.

This resilience was again on display throughout 2023, as the Federal Reserve continued the most aggressive round of interest rate hikes the country has seen in more than 40 years. Though the federal funds rate will end the year 500 basis points higher than where it was in March 2022, we have so far seen little if any corresponding weakness in economic growth or the U.S. job market (*Exhibits 1, 2, 3*). As Americans, we are extremely fortunate that our economy has performed so well at a time of such volatility and uncertainty.

Looking ahead to the new year, it is clear a wide variety of significant risks face the U.S. economy, including the essential rural industries financed by CoBank. However, we have myriad opportunities as well, driven by the pursuit of growth, efficiency, profitability and shareholder value.

EXHIBIT 1: Fed Funds Rate



Source: Federal Open Market Committee

With that in mind, it is our privilege to present CoBank's year-ahead report for 2024. Our Knowledge Exchange team of economists and industry analysts has once again assembled a collection of essays about key trends in the sectors led by our customers. We hope that our customers and other partners find the report useful as they develop strategies for the year ahead and position their businesses for future success.

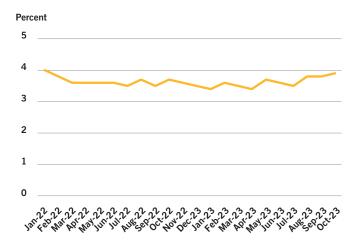
I personally remain more optimistic than pessimistic about prospects for 2024 given the strong economic fundamentals of our economy in recent years. It is reasonable to expect the wave of investment in rural industries to continue, powered by the energy transition, environmental sustainability, and technological advancement. This investment will drive innovation, productivity and growth.

My biggest concerns are in the area of federal policy, where the risk of self-inflicted damage will be meaningful in the coming election year. It is imperative that Congress and the White House find a way to deliver a new Farm Bill and provide agriculture and other rural industries with the foundation of certainty they need to operate and compete. We must stabilize our fiscal and debt dynamics. We must not lose sight of the huge benefits we reap from liberalized international trade, especially for export-dependent industries like agriculture and energy. Rural business leaders, including the boards and management teams of our customers, must work together to advocate for rural America to ensure that their interests are not forgotten or overlooked by policymakers.

Whatever transpires in 2024, our customers can rest assured that CoBank will stand by them to fulfill their needs for dependable credit and financial services.

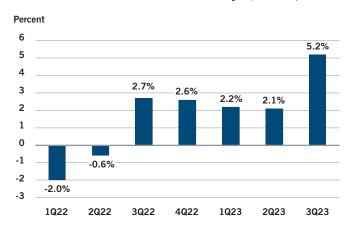
Our customers will continue to feed people; generate

EXHIBIT 2: U.S. Unemployment Rate



Source: U.S. Department of Labor, Bureau of Labor Statistics

EXHIBIT 3: U.S. GDP Growth Rate By Quarter, Annualized



Source: U.S. Department of Commerce, Bureau of Economic Analysis

and distribute power; deliver clean water; and provide vital connectivity to rural communities. It is a privilege and honor for us to support them as they carry on that vital work.

With best wishes for the year ahead,

Ton Helverson

Tom Halverson
President and Chief Executive Officer



Global growth rates will fall in the era of deglobalization

By Rob Fox

THE COLLAPSE OF THE SOVIET UNION in 1991,

NAFTA ratification in 1992, the creation of the World Trade Organization in 1995 and China's accession to it in 2001 appeared to set the stage for a decisive and final global victory for the political ideals of free market capitalism, democracy, and individual freedoms over isolationist authoritarian rule.

In terms of wealth generation, the era of free trade agreements was a rousing success: Since 1990 global trade has increased more than 400%, global GDP has increased by 500% and the share of world population living in extreme poverty has fallen from 37% to 9%.^{1,2}

At the time, academics and politicians knew that trade liberalization produced winners and losers but they promised that there would be more than enough wealth generated from free trade to help transition workers in manual labor occupations like manufacturing and mining into similarly well-paid service and technical fields. Those promises were not only not kept, policymakers had also ignored

the fact that many of those workers did not want to change careers in the first place. In the U.S. the number of manufacturing jobs fell nearly one-third from a peak of 18.8 million in 1998 to around 12.8 million today.³ The EU went through a very similar story.

The global financial crisis of 2007-2008 (GFC) had devastating effects globally — here in the U.S. it took nearly a decade for unemployment to return to prior levels. Labor force participation, marriage, and fertility rates have never returned to pre-GFC levels. Amid this general state of discontent, economic protectionist and political isolationist views found fertile ground to grow. The pandemic and its supply chain mayhem and resulting inflation added more fuel to the anti-trade sentiment. Congress nixed even the very limited trade proposals in the Indo-Pacific Economic Framework for Prosperity, despite the fact it would have helped diversify our supply chains away from China.

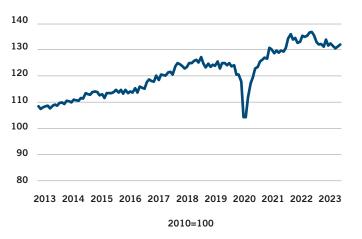
During the heyday of the free trade movement (2000-2018), global GDP grew at an average of 5.4% annually but those days are now over, likely forever. By some measures, global trade is now declining in absolute terms (*Exhibit 4*). Global growth in 2023 is estimated at around 2.5% and the consensus is for a continued slowdown in 2024. Business plans must account for the reality of permanently slower global economic growth.

The biggest mistake Western policymakers made was assuming that China's integration into a free trade block dominated by capitalist democracies would spur its transition into a more open and liberal society. That obviously did not happen. China's 20-year growth trajectory did bring it to superpower status, both economically and militarily. But we would argue that China didn't "win" the free trade game - China's economic growth rates, always inflated by massive and inefficient infrastructure and housing investments, have now leveled off considerably (Exhibit 5). Foreign investment is exiting, opportunities for young people are shrinking, the population is rapidly aging, and the government is cracking down even harder on political dissent and freedom of information. That hardly sounds like a win.

References

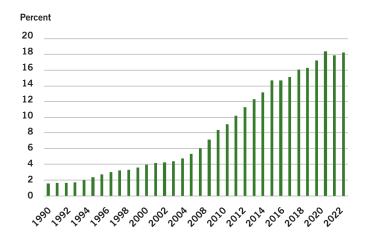
- ¹ IMF Dataset; International Finance Statistics, Trade of Goods
- ² World Bank Poverty and Inequality Platform
- ³ U.S. Bureau of Economic Analysis; Employment by Industry: National Account Tables

EXHIBIT 4: Global Merchandise Trade Index



Source: CPB World Trade Monitor, September 2023

EXHIBIT 5: China's Share of Global GDP



Source: St. Louis Fed FRED Database



SEVENTY-EIGHT PERCENT OF AMERICANS

now believe the economy is on the wrong track, according to Fannie Mae's monthly National Housing Survey. This comes despite a Goldilocks situation, where most economists note everything is running "just right": Headline inflation has plummeted to 3.1% from its summer 2022 peak of 8.9%, unemployment remains below 4%, and inflation-adjusted wages are growing.

Economists base their predictions on the premise that humans act rationally. However, this oversimplifies the fundamental axiom of modern economic theory, which holds that humans act rationally to maximize their best interests, assuming they have perfect information with which to make decisions.

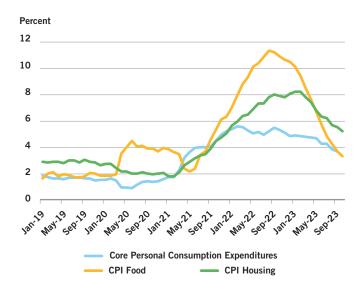
Nobel laureate and a founder of the field of behavioral economics Daniel Kahneman tested the rationality axiom in the 1970s and found that in practice, humans were not purely rational. He found that when making economic decisions, humans 1) give too much weight to information that is easy to obtain or brings about an acute emotional response, and 2) give much more weight to potential negative outcomes than to equally likely positive outcomes. In essence, according to Kahneman, we are hard-wired to look for an easy reason to expect the worst of things. (This writer is certainly no exception.)

So why are Americans generally so unhappy with an economy, which by at least conventional measures, is doing quite well? We suggest a couple of reasons. First, people have "anchored" mental expectations as to what prices "should" be and these anchors take a long time to move. The same holds for most purchases but take food as an example. Although right now grocery inflation is running at about 2%, the price of food at home has risen by 25% in the past three years, the same absolute increase that took 16 years prior to the pandemic (Exhibit 6)! In our conversations across the country, people are not yet at peace with the reality that a shopping cart full of groceries will now cost \$300 compared to \$240 just three years ago. Those waiting for food prices to decline will continue to be disappointed — the last time food prices declined year-on-year was 1959.

The second reason is that people don't like uncertainty, and we have that in spades now. Internationally, geopolitical risk is at its highest level since the post-9/11 period. Russia, Iran, and China are forming a loose alliance to destabilize U.S. global influence and Western institutions in general. Domestically, extreme partisanship and a soaring federal debt are leaving voters dismayed: The job approval rating for Congress is 13%, and 37% for the president. The political rancor will only intensify as election season approaches. Skyrocketing mortgage rates have left homeownership for young families more of a fantasy than a realistic aspiration. Frankly we're all angry, scared, and disappointed – as Kahneman would say, not the best mindset with which to make rational decisions.

All of this matters because consumer spending makes up almost 70% of the economy and consumers who are scared and angry will hold back

EXHIBIT 6: Inflation Metrics (Percent Change Year-on-Year)



Source: St. Louis Fed FRED Database

on discretionary spending — which we have already been seeing strong hints of in third quarter earnings reports from Target, Home Depot, and others.

Retail spending, when adjusted for inflation, has actually fallen in 10 of the past 12 months, meaning consumers are getting by with less "stuff." We've seen this acutely in the retail food space where unit sales have been falling for more than a year.

Negative attitudes held by consumers and business leaders will only intensify as the election season heats up. History has plenty of examples of false beliefs leading to their eventual confirmation. Lately economists are constantly crying "Recession!", not unlike the little boy who cried "wolf" in Aesop's fable. (Let's hope they don't wind up with the same fate.)

If we define an economic "soft landing" as a Fed rate-hike campaign that avoids a true recession, then that appears to be the base case for 2024. If the labor market can power through the first

quarter, most of the Fed's monetary tightening policies will be more than 12 months behind us, a benchmark that Milton Friedman felt was a reasonable time period for rate hikes to impact the general economy.

Fed Chair Powell and his governors have proven time and time again that their primary focus is on controlling inflation and that will not change until inflation has stabilized below 2.5% for a quarter or more. So unless the economy completely goes off the rails, expectations of 100 basis points worth of rate cut in 2024 are likely, yes, "irrational."

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U.S. GOVERNMENT:

Vital funding bills await dysfunctional Congress in 2024

By Brian Cavey

AS WE RAPIDLY APPROACH 2024, the difficulties of governing with a slim margin in both the House and Senate are in clear focus. A recent special election in Utah brought Celeste Maloy (R-UT-2), a former staffer for former Rep. Chris Stewart (R-UT-2), to the House Republican Caucus, delivering a 222-213 margin of control – for now. But that addition to the caucus will likely be negated by the expulsion of George Santos (R-NY-3) after an ethics investigation uncovered a variety of misdeeds. Under New York law, the governor must schedule and then conduct a special election to fill that seat within 90 days. As a likely Democrat pickup, that will tighten the margin. In addition, former speaker Kevin McCarthy (R-CA-20) is leaving at the end of the year. That leaves a two-vote margin, making a government shutdown even more difficult to avoid.

Meanwhile, in the Senate, Robert Menendez (D-NJ) faces federal charges related to influence peddling. More than half of his Democratic Senate colleagues and most of his home state party leaders have called

on him to resign, which he has
rejected. And since he faced
down federal charges and won once
before, it is very possible he will stay put.
In his case, an appointed replacement would
be a Democrat so the control would not shift.
Regardless of his actions, neither chamber is doing
themselves any favors in the eyes of the public.

Mike Johnson (R-LA-4) was elected speaker on Oct. 25, 2023, just in time to face a vote on a Continuing Resolution (CR) that ultimately passed the House on Nov. 14, three days before a shutdown deadline with more Democrats than Republicans supporting the bill. That bipartisan effort on a spending bill was the same action that in September triggered a successful vote to remove the speaker's predecessor from his job. That was followed by three weeks of chaos before Johnson was elected. And the appropriations work is only postponed. None of the 12 annual appropriations bills are actually enacted.

Now Congress faces a pair of deadlines for shutdowns. If not funded before Jan. 19, federal departments and agencies funded with four appropriations bills - Agriculture, Rural Development and the Food and Drug Administration; Energy and Water Development; Military Construction and Veterans Affairs; and Transportation, Housing, and Urban Development – will shut down. Funding for the remaining eight bills expire two weeks later, on Feb. 2, 2024, which somewhat ironically is Groundhog Day. Until Congress can complete its work appropriating discretionary funding, little other work can proceed on major bills — aid to Ukraine or Israel, disaster spending, the Federal Aviation Administration reauthorization, and the Farm Bill.

For rural America there was a silver lining in the CR. It extended the current Farm Bill through Sept. 30, 2024. But that is a mixed blessing. On one hand, Congress now has an additional 10 months to complete a full reauthorization of the Farm Bill. But the extension eases the deadline pressure on the Congress to act, at a time when the presidential primaries and ultimately the congressional elections will likely make cooperation increasingly more difficult.

The House Agriculture Committee Leaders, Chair GT Thompson (R-PA-15) and Ranking Democrat David Scott (D-GA-13) and their Senate counterparts Chair Debbie Stabenow (D-MI) and Ranking Republican John Boozman (R-AR) are working together and have publicly committed to getting the job done. But the longer this reauthorization effort drags out, the harder that becomes.

lowa kicks off the presidential voting with its caucuses in about four weeks, on Jan. 15, 2024. New Hampshire's primary is eight days later. By the end of March, over 30 states will have conducted primaries or caucuses. And while farm policy will be a factor in some of those states, none of the presidential campaigns is strongly focused on ag issues. As a result, pressure from the campaign trail is unlikely to generate more political urgency to reauthorize the Farm Bill.

Many reasons favor completing the Farm Bill this year. First, both the House and Senate Ag Committees have put in significant time and labor trying to finish the Farm Bill and if pushed to 2025, we start from scratch. The Senate Chair is retiring and a new chair will be selected, and that will likely slow the process. In addition, inexperience will grow. This year the majority of House and Senate members have never voted on a Farm Bill. Even if every member of Congress who wants to return is re-elected, at least 36 new representatives and seven senators will not have voted for a Farm Bill before – a lot of people to educate about the importance of this legislation to rural America. In addition, we will most certainly have a new secretary of agriculture. Secretary Vilsack is the longest-serving ag secretary in history. Regardless of who is elected president, he is expected to retire and that means new faces with unknown experience at the USDA as the bill is debated.

Fortunately, we have time and it is possible that Congress can muster the political will to get this job done. But it would be a mistake to assume that reauthorization in 2024 is a done deal.



SEVERAL YEARS OF DECLINING global grain and oilseed inventories followed by Russia's invasion of Ukraine set the stage for record farm commodity prices and farm incomes during calendar years 2021 and 2022. However, record-shattering harvests in Brazil (corn and soybeans) and Russia (wheat) over the past two years have more than filled the gap left by Ukraine's declining exports (Exhibit 7). China has been more than happy to take advantage of the situation – by delinking its food security from U.S. exports to the greatest extent possible. Meanwhile a surging U.S. dollar powered by geopolitical risks, an outperforming U.S. economy and "higher for longer" interest rates have weighed heavily on agricultural commodity prices. The world is not awash in abundant supplies of grain as some pundits may assert. Supplies of major food crops wheat and rice are particularly tight, and markets are more constrained by trade barriers than just five years ago.

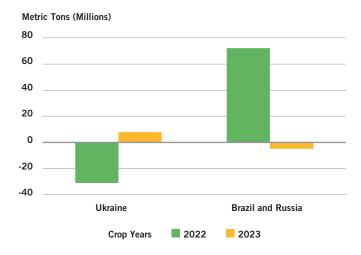
However, today wheat and corn futures are just a few bad trading days away from falling to their pre-pandemic levels. Only soybean prices remain elevated in a new trading range
thanks to the expansion of the
renewable diesel industry. But the
real problem for farm margins is that
even though fertilizer prices have come down
from record high levels, other costs of production
remain stubbornly high. However, we see more
upside price risk than down: Global grain and oilseed
stock inventories are tight by historic measures, the
northern hemisphere will likely have a strong El Niño
weather pattern during the growing season for the
first time since 2015, the dollar should continue its
recent decline, and global demand should return
to its long-term growth trend. Plus, geopolitical
conditions are ripe for significant conflict.

Brazil's main planting season is off to a very dry start but many are still expecting record harvests next year because its planted acreage is expanding so rapidly. Over the past 15 years, Brazil has added an average of 5.6 million acres of combined corn, soybeans, and wheat annually. That's the equivalent of adding all of lowa's grain production farmland

every 4.1 years. At the current rate, Brazil will pass the U.S. in combined acreage before the end of the decade (*Exhibit 8*). Not surprisingly, Brazil's meat and poultry industries are growing quickly given their access to low cost feed and a much lower cost operating environment in general. The most interesting story of the next decade to watch will be the evolution of global grain markets in terms of trade patterns, crop mix, regional production shifts, biofuel mandates, and animal protein consumption in emerging markets.

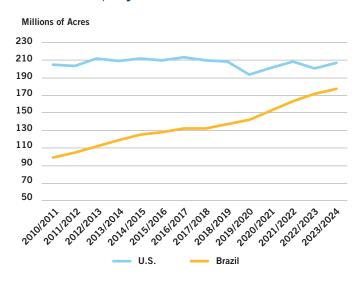
Profitability for the U.S. livestock sector should improve modestly in the 2024, as lower feed costs and steadfast domestic demand offset weak global export conditions. Beef packers will continue to struggle with shrinking supplies of available cattle. Overall, U.S. consumers are buying less and paying more, which is driving down farm-level pork prices. Chicken producers will have to fill the gap as USDA is penciling in a 4% decline in U.S. beef production in 2024. Plant-based alternatives are no longer seen as long-term threat to the meat and livestock consumption. Global dairy prices have already passed their bottom: Current milk and feed futures point to near-average profitability for milk producers in the coming year.

EXHIBIT 7: Grain and Oilseed Production Change



Source: USDA-FAS Production, Supply and Distribution data

EXHIBIT 8: Corn, Soybean and Wheat Acres



Source: USDA-FAS Production, Supply and Distribution data

GRAIN, FARM SUPPLY, BIOFUELS:

Rise of renewable diesel to pull more acres to soybeans in 2024

By Tanner Ehmke

THE RENEWABLE DIESEL BOOM and the shorter U.S. soybean crop harvest of 2023 will drive an expansion of soybean acreage in the U.S. in 2024, and therefore reduce acreage available for other crops. The biofuel sector at large carries the momentum of historically large profit margins into the new year. Both ethanol producers and soybean crushers are benefiting from rising demand for biofuels.

As more oilseed crush plants come online in 2024, demand for oilseeds like soybeans, canola and sunflowers will drive an acreage expansion at the expense of grains. USDA's early release of its Agricultural Projections to 2033 points to planted soybean acreage rising 4% YoY to 87 million acres this spring, corn acreage falling 4% to 91 million, and wheat dropping 3% to 48 million (*Exhibit* 9). Planted acreage for grain sorghum is also projected down 7% to 6.7 million, and rice acres down 3% to 2.8 million.

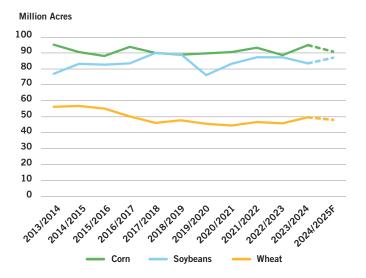
The grain and oilseed price outlook
hinges on the value of the U.S. dollar,
conditions of wheat in Russia and harvests
of corn and soybeans in South America.
Weather issues in key growing regions of Brazil
early in the growing season hint at a possible pause
in supply growth for corn and soybeans. But crop
production in Argentina, the world's biggest exporter
of soybean meal and oil, is expected to rebound,
bringing more competition for U.S. soybean meal
exports that reached a record pace in 2023.

Processor margins for soybeans are expected to weaken as soybean meal prices fall, with Argentina expected to return to the world market as a competitive exporter. With RIN credit prices declining, selling renewable diesel outside of California is less economical. Ethanol processor margins, though, are expected to remain comparatively healthy from a combination of affordable natural gas prices and corn prices

under pressure from a record harvest and weak export demand. A slowing global economy and a surplus of energy on the world market currently is depressing fuel and ethanol prices, despite a slower than expected transition to EV vehicles. The risk of conflict spreading in the Middle East and disrupting supply lines among oil-exporting countries, though, could result in a global energy shock and a surge in fuel and ethanol prices.

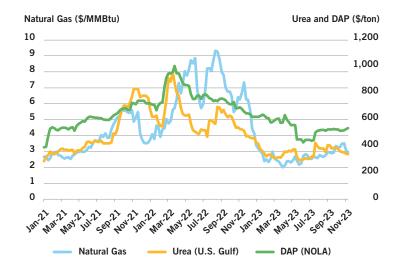
Current 2024 futures prices suggest further price erosion across the grain and oilseed sector in 2024 but fertilizer prices have also come down (Exhibit 10), which means farm incomes will remain in striking distance of break-even. However, if the dollar continues to weaken and weather scares hit northern hemisphere growing regions this spring, the still relatively tight global grain supply situation would set the market up for a price rally.

EXHIBIT 9: U.S. Planted Acreage



Source: USDA-ERS Baseline Projections, data as of Nov. 7, 2023

EXHIBIT 10: Natural Gas vs. Fertilizer Prices



Sources: Barchart.com, CME Group, NYMEX

ANIMAL PROTEIN:

Inputs remain challenging, tempering output growth potential

By Brian Earnest

FROM FARM TO TABLE, challenges abound for the animal protein segment, most notably rising input costs. While some prices of inputs such as corn and soybean meal are now easing, we expect other costs will continue to deter expansion plans. Moreover, we expect the industry's focus on efficiency and technology to intensify and emphasis on risk management to remain paramount.

For several years now, animal protein demand has outstripped supply (with some exceptions). Consumer demand for goods and services has been shaken by inflation, but demand for animal protein products has been incredibly resilient. Arguably, consumers will be refining their budgets to deal with inflation in 2024, but the meat case thus far has seen minimal demand deterioration as a result of higher prices. Beef prices are likely to remain elevated, but consumers are close to their breaking point. Production is likely shrinking by

3%-5% and will pressure all levels of the beef supply chain. Conversely, weaker demand in pork and poultry suggest an opportunity for deflation.

With wholesale meat prices stagnating, higher cattle/hog and input values have been a burden on packers and producers during the back half of 2023. Tighter cattle numbers, flat pork supplies and dampened broiler availability would normally be seen as supportive to margins, but all segments have been fighting rising costs of production (Exhibit 11). Higher cattle values are pressuring cattle feeder and packer margins lower into the first few months of 2024, a dynamic these segments haven't seen for quite some time.

From a production standpoint, most indicators are pointing towards smaller beef and pork supplies next year. While feedlots have seen moderate declines, the beef cow herd was down 2.6% YoY

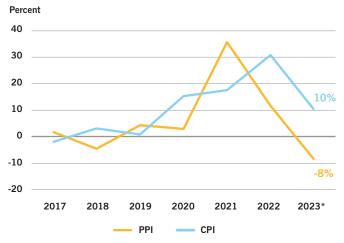
at mid-year, and 9% or 3 million head from its previous peak in 2018. Similarly, the hog breeding herd declined 1% YoY and was down 5.4% from its previous peak in the third quarter. Improved farm productivity metrics suggest the hog population will be about even, but slaughter weights are down, dampening output.

And similarly, broiler-type hatching egg layers were up 3% YoY at peak in the second quarter, but productivity is down, and so are liveweights. Pork and beef take longer to respond to softening feed markets than poultry, so if broiler integrator margins improve, we could see poultry supplies rebounding much more quickly. As has been the case in previous periods of volatility, agility should benefit chicken output.

Despite dampened purchasing power in foreign nations, U.S. meat and poultry trade has remained resilient. U.S. exports increasingly rely on Mexico, while exports to destinations like China and Japan have come under pressure (*Exhibit 12*). We expect U.S. animal protein will remain competitive with top producers in global markets but that open access to foreign markets will remain critical.

While there are some obvious (and not-so-obvious) hurdles in the future for animal protein producers, demand has remained resilient, fueling progress and optimism in the path ahead. ■

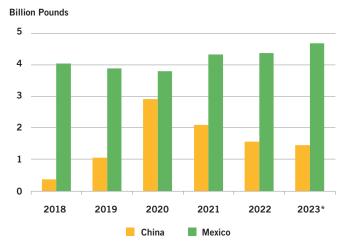
EXHIBIT 11: CPI vs. PPI, Meat, Poultry and Fish



*12-month average through October for 2023

Source: St. Louis Fed FRED Database

EXHIBIT 12: U.S. Meat and Poultry Exports



*12-month rolling average ended September 2023

Source: USDA-ERS



THE UPSIDE POTENTIAL FOR DAIRY demand

faces some question marks moving into the new year. Dairy's product sales should grow, led by natural cheese, butter and yogurt. However, that growth will be at a slightly slower pace than the previous year — U.S. consumers will be pressured by reduced household savings, growing credit card debt and higher interest rates. While growth in dairy sales could be tepid, the dairy aisle remains the largest sales category in U.S. grocery stores at over \$78 billion in annual sales based on Circana sales data.

On the international market, U.S. dairy exports in 2023 fell to 16.5% after posting back-to-back record years in 2021 and 2022 where exports represented 18%-19% of total U.S. milk production. However, exports remain much stronger than the 15% static figure posted from 2013 to 2020.

Ultimately the wild card is international demand as the world's growing middle class craves more

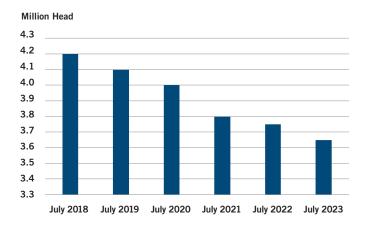
high-quality proteins. While countries with growing middle-class economies could step up dairy purchases, a strong U.S. dollar also could dampen sales. Additionally, China — the world's largest dairy product importer accounting for roughly 20% of all purchases — remains mired in an economic slump. In 2021, China's gross domestic product had grown to 75% of the U.S. total. By the third quarter of 2023, China's GDP had slipped back to 64% of the U.S. total, the same as 2017.

If global dairy demand picks up, the U.S. is poised to fill orders as the other major dairy export regions — Oceania, the European Union and Argentina — all show signs of static milk production growth. Lower feed costs and improved cow productivity should spur some additional U.S. milk production. On the flip side, all production costs have moved higher. Modest margins, along with a limited supply of replacement heifers, will limit a major upward

movement in milk production. Strong use of beef semen on dairy cows has shrunk dairy replacement numbers by 550,000 head in the last six years (*Exhibit 13*).

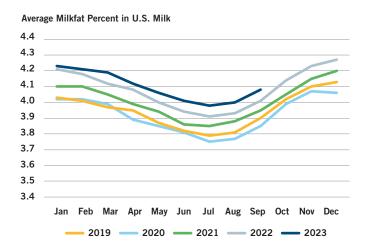
Butterfat demand continues to boom. Even though milkfat content in milk grows each successive year, butter product prices set new records for two years straight, topping out in the \$3.50 per pound range this fall. Both buyers and sellers should keep this situation in mind next year as the summer slump in milkfat content (*Exhibit 14*) appears to send butter prices soaring into the fall baking season.

EXHIBIT 13: Dairy Cattle Replacements
Continue to Draw Down



Source: USDA-NASS Cattle Report

EXHIBIT 14: Summer Slump in Milkfat Content Pushes Butter Prices Up in Fall



Source: USDA-NASS



COMPANIES' FINANCIAL PERFORMANCES over

the past year-plus have largely relied upon price increases at the expense of volume sales. That approach is rapidly running out of road, and the limits of price elasticity will further slow increases. Food/beverage prices in 2023 are 25%-30% ahead of 2019, per 210 Analytics. Elevated prices will continue to impact consumer shopping behaviors, even amid pockets of deflation in certain categories — namely eggs, chicken and seafood — and expectations of lower prices in other grocery goods in the coming year.

While consumers want a return to 2021 prices, Fed Governor Christopher Walker believes these prices are now here "forever." As such, consumer packaged goods categories face a consumer base still looking to stretch their food dollar. Over the past year-plus, PYMNTS research finds almost half of grocery shoppers traded down, purchasing from lower-priced retailers, while more than one-third (35%) had switched to lower-quality items or private-label

options. Three quarters of all consumers have cut back their purchases of "nice-to-have" products at the grocery store over the past year, including significantly reducing desserts, snacks and other indulgent/impulse purchases.

Cost-saving behaviors that have taken root over the past 18-24 months — including trading down, the quest for deals, coupon usage, and value in general — are likely to linger, even as inflation cools. In fact, the Food Marketing Institute finds more than 95% of consumers bought private-label products at least occasionally in 2023, with 46% buying these products "all or most of the time." More troubling for name brands, 90% of consumers say they are somewhat or very likely to keep buying private-label products even if grocery prices decline.

In its 2024 food and beverage outlook, Circana sees deflation helping to reverse the volume declines seen in recent years. Modest volume growth in food and beverage is likely, as several factors are improving, including inflation. An improving macroeconomic environment and growing promotional investments should also help increase sales volume gains. Both beverage and deli sectors are expected to outperform overall food and beverage sales over the coming year.

Beverage innovation, deli convenience spur sales

Beverage brands in particular should benefit from consumers feeling initial inflation relief, as well as more health-conscious consumers seeking protein and energy drinks. Beverage companies are innovating flavors and ingredients, and that has resonated with consumers. Carbonated beverages and sports/energy drinks accounted for 27% of the new products recognized as Circana's New Product Pacesetters announced in June, featuring novel flavors and ingredients (biotin, B6, B12). Such concepts will continue to drive consumer exploration, particularly of options that offset indulgence with at least a somewhat-healthy promise.

Convenience, on the other hand, will drive deligrowth, with grab-and-go options spurring sales.

Consumers have generally shifted from "just in case" shopping behaviors (aka stocking up) to purchasing "just in time" for more-immediate meal needs, which will continue to keep the deli relevant to consumers. In fact, many products in the center store will be able to meet the need for convenience along with the continued demand for value, even if food/beverage inflation has abated.

The "just in time" approach to grocery shopping does have some potential advantages that retailers will likely seek to exploit in 2024, particularly increased store traffic. On average, consumers are making 10.5 more trips to the store for food and beverage per year

than in 2019, per Circana. This opens the door to more opportunities for items that can capitalize on freshness, including produce and items on the store perimeter, whose shelf life has sometimes been a barrier to purchase.

Price vs. sustainability

Other categories, however, face a challenging environment driven by comparatively higher prices. Plant-based meat alternatives, for example, have struggled as consumer spending has shifted. Sales for Beyond Meat, one of the better-known plant-based meat brands, dipped 34% in the third quarter of 2023 alone. With others in that space experiencing drops, the crowded category is likely to see some attrition in the coming year, as consumers continue to factor affordability strongly into their grocery shopping decisions. Additionally, plant-based meat companies' messaging has shifted, with sustainability taking a more-prominent role than "better for you" promises.

Sustainability messaging appears to resonate with younger consumers. Consumer research group Mintel finds 42% of Gen Z and Millennials put sustainability and environmental claims ahead of price when shopping. The role of sustainability in consumer selection will likely increase in the coming year and beyond. Yet, these claims present challenges along with opportunity: Brands large and small face persistent allegations of greenwashing, while consumers have trust issues with carbon footprint allowances. Reaching consumers with a sustainability message will demand greater transparency from brands, in both operations and throughout the supply chain.



"the number, intensity, and length of violent conflicts worldwide is at its highest level since before the end of the Cold War." This unprecedented, contemporary level of global discord introduces significant uncertainty into the commodity markets — and for energy prices in particular, given the location of regional conflicts. Economic historian Daniel Yergin observed that a war in the Middle East typically disrupts oil supply (Exhibit 15) and sends oil prices soaring, since the region is home to about half of the world's proven reserves.

Adding further fuel to the fire is the fact that global suppliers are reconciling the prospect of an accelerated energy transition with the realities of today's fossil fuel-dependent economies — reasserting control where they can. Case in point is the recent OPEC+ decision to roll formal oil production cutbacks (amounting to about 5% of global supply) into 2024 and expand a voluntary

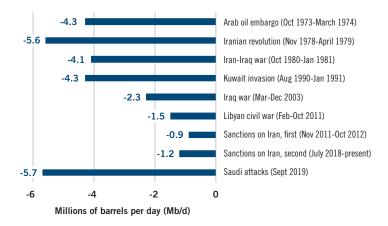
barrels per day (bpd) early in the
new year. News of the original supply
withholdings over the summer pushed
oil prices up 9% in the third quarter. The
cartel's purported reason was to balance the
market to address concerns the global economy
was slowing. But there are also indications that
these recent OPEC decisions mark a watershed
moment in producer-consumer relations, with
the bloc determined to reassert market control
by freeing up spare capacity. Further, the fact
that major producer Brazil will formally join the
producers' alliance shows a new heightened degree
of coordination amongst global suppliers.

Nevertheless, in what appears to be a fleeting moment, oil prices have actually fallen by 5% in the fourth quarter — as the economy slows and inventories rise — but it is unlikely that the current market calm will persist. Indeed, the World Bank

asserted that should conflict-driven disruption escalate, oil prices could potentially blow past \$150/barrel in 2024 (or 56%-75% above the 2023 fourth quarter baseline). In the World Bank's recent report, the organization assessed the amount of supply dislocation under three different risk scenarios, relying upon historical precedents to estimate the effects of small, moderate, and large disruptions (*Exhibit 16*). Importantly, the World Bank noted, "these types of disruptions in oil supplies can have a cascading impact on the prices of other commodities — especially natural gas prices, which are even more susceptible to transportation disruptions than oil."

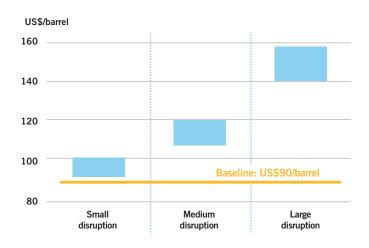
The growing need for the U.S. (the world's largest consumer) to begin to replenish supplies is setting a potential floor for prices in 2024, especially while oil prices remain a relative bargain. The U.S. Strategic Petroleum Reserve, at about 350 million barrels, is at only half the level it was in 2021 and the lowest since 1983. The historical echoes of the Middle East conflict 50 years ago and the resulting petroleum embargo underscore the necessity of replenishing the country's strategic stockpile. And to avert potential economic repercussions outlined by the World Bank, the U.S. needs to make these purchases sooner rather than later.

EXHIBIT 15: Conflict-Driven Oil Supply Disruptions



Source: World Bank, Commodities Market Outlook, October 2023

EXHIBIT 16: Initial Changes in Brent Crude Oil Prices Under Different Disruption Scenarios



Source: World Bank, Commodities Market Outlook, October 2023



THE U.S. BROADBAND MARKET will continue to be a bright spot for the economy in 2024 thanks to ongoing digitization for enterprises and consumers and the deployment of unprecedented amounts of public and private capital. Despite these powerful industry tailwinds, operators face several obstacles to executing build plans on time and on budget. Specifically, these include navigating the current labor market for both contractors and employees, gaining access to capital given the increase in interest rates and tightening credit conditions, and managing through the permitting process, which has proven to be a bottleneck for fiber network builds.

The U.S unemployment rate, currently sitting at 3.7% for November 2023, is hovering just above a multi-decade low (*Exhibit 17*). Factors impacting this low rate include a decline in immigration from 2016 to 2022, early retirements during the

of declining birth rates. In other words, there is no silver bullet for the tight labor problem and it will take time to fix. Building broadband networks is a labor-intensive business and gaining access to third-party contractor resources is a major challenge. The combination of low unemployment and a significant amount of network build work scheduled for 2024 means many contractors are already booked up 6-12 months out, which undoubtedly affects final build completion.

The rapid rise in interest rates over the last 20 months has led to recessionary concerns and an overall tightening in the credit markets. Gaining access to capital through commercial banks has gotten more difficult, and more expensive (Exhibit 18). Not only is money more expensive to borrow, but labor and materials have also grown

more costly. All of this means that projects will take longer to complete in 2024, and be more expensive. And unlike other industries, broadband operators are typically not able to pass along cost inflation to their customers, so margins could see some pressure in 2024.

Lastly, securing permits from local and state officials continues to be a major problem that is delaying the start of many broadband builds, and this is expected to continue in 2024. Permit offices too are grappling with the tight labor market as they receive a deluge of requests stemming from the numerous government infrastructure funding projects, including the Broadband Equity, Access, and Deployment (BEAD) program.

EXHIBIT 17: Unemployment Rate



Source: St. Louis Fed FRED Database

EXHIBIT 18: Net Percentage of Domestic Banks Tightening Standards for Commercial and Industrial Loans to Large and Middle-Market Firms



Source: St Louis Fed FRED Database

Contributors

KNOWLEDGE EXCHANGE is an innovative knowledge-sharing initiative that is designed to provide strategic insights about trends, structural change, and policy directives within the key rural industries served by CoBank. It draws upon the expertise within CoBank and the rest of the Farm Credit System, the broad perspective of outside consultants and academics, and the first-hand knowledge and experience of our customers to enhance our collective understanding of emerging business opportunities and risks.



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COBANK IS a cooperative bank serving vital industries across rural America. The bank provides loans, leases, export financing and other financial services to agribusinesses and rural power, water and communications providers in all 50 states. The bank also provides wholesale loans and other financial services to affiliated Farm Credit associations serving more than 76,000 farmers, ranchers and other rural borrowers in 23 states around the country.

CoBank is a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture, rural infrastructure and rural communities. Headquartered outside Denver, Colorado, CoBank serves customers from regional banking centers across the U.S. and also maintains an international representative office in Singapore.

CoBank's Knowledge Exchange Division welcomes readers' comments and suggestions. Please send them to KEDRESEARCH@cobank.com.

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