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Economic perspective on the U.S. agricultural commodity market for the 2022/23 marketing year

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Highlights

- The United States is a prominent commodity exporter and producer. The U.S. is projected to have a tight stock-to-use ratio for corn and soybeans in the 2022/2023 marketing year.
- Futures prices for corn, soybeans, and wheat have increased and are expected to continue to increase at a slower rate for the 2022/23 marketing year due to strong global demand, high input expenses, extreme weather, and the Ukraine War.

Introduction

This article discusses the economic perspectives of the US commodity market under the global macroeconomic conditions for the 2022/2023 marketing year.

Overview of the US Commodity Market

Table 1. 2022/23 US Balance Sheet for Commodities

	Corn	Soybeans	Wheat
	Million Acres		
Area Planted	88.6	87.5	45.7
Area Harvested	79.2	86.3	35.5
Yield per Harvested Acre (bu/acre)	173.3	49.5	46.5
	Million Bushels		
Beginning Stocks	1377	274	698
Production	13730	4276	1650
Imports	50	15	120
Total Supply	15157	4566	2468
Exports	1925	1990	775
Total Use	13915	4355	1901
Ending Stocks	1242	210	567
Stocks-to-Use Ratio	8.9%	4.8%	29.8%
Average Farm Price ($/bu)	6.7	14.2	9.1

Source: USDA January 2023 WASDE Report

One of the best indicators of the commodity markets in the U.S. is coming from the World Agricultural Supply and Demand Estimates (WASDE) monthly reports. Table 1 shows the 2022/23 US balance sheets for corn, soybeans, and wheat. The overall supply and demand situation for corn, soybeans, and wheat remains tight, especially for corn and soybeans, which have relatively low (below 10) estimated stock-to-use ratios. These historically low levels typically result in elevated price volatility (Janzen, June 2022).

Corn production is forecast at 13.730 billion bushels and yield is forecast at 173.3 bushels per acre in the 2022/2023 marketing year, according to the recent January 2023 WASDE report. The supply of corn is expected to exceed the demand for corn by 1.242 billion bushels. The U.S. is projected to export 1.925 billion bushels of corn and import 50 million bushels. The stock-to-use ratio for corn is 8.3%. The US corn stocks-to-use has been below 10% in only six years since 1990 (Janzen, June 2022). The season-average corn price received by producers has decreased to $6.70 per bushel.

Soybean production is forecast at 4.276 billion bushels in the 2022/2023 marketing year, with 49.5 million bushels per harvested acre. Higher yields in Iowa and Missouri compensated for the supply drop due to drought in western states to some extent. Soybeans are projected to have 1.99 billion bushels of exports and 15 million bushels of imports. The anticipated supply and demand for soybeans are, respectively, 4.566 billion bushels and 4.355 billion bushels, which leads to 210 million bushels in expected ending stocks. The stock-to-use ratio is projected to be 4.8%. US soybean stocks-to-use has been below 5% in only five years over the past 30 years (Janzen, June 2022). The U.S. season-average soybean price for 2022/23 is forecast at $14.20 per bushel.

Total domestic use of wheat is projected at 1.901 billion bushels, 567 million bushels less than the expected supply. Wheat exports are expected to be 775 million. Projected 2022/23 ending stocks for wheat are 567 million, the lowest level since 2007/08. Wheat has a relatively high stocks-to-use ratio of 29.8%. The projected 2022/23 season-average farm price is $9.10 per bushel.

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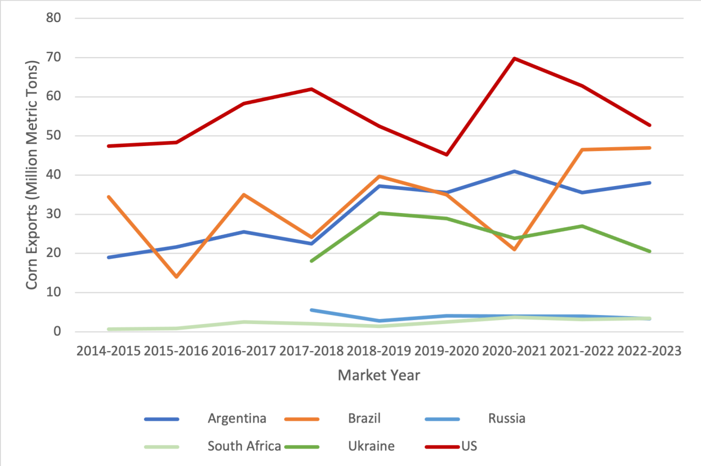
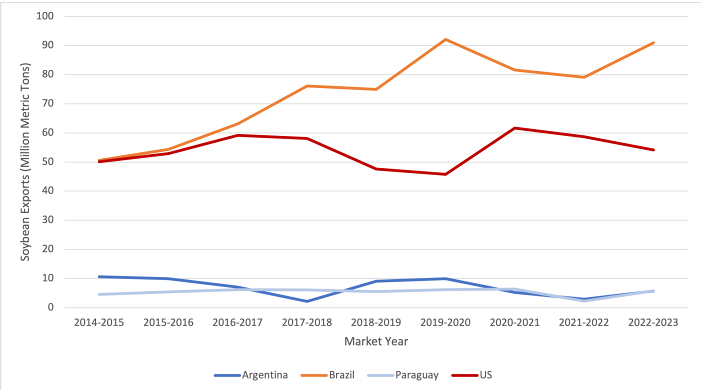
Overview of the Global Commodity Market

Figure 1: Major Corn Exporters, 2014-2023



Source: USDA WASDE Report (January 2023, January 2021, January 2019, January 2017)

Figure 2: Major Soybean Exporters, 2014-2023



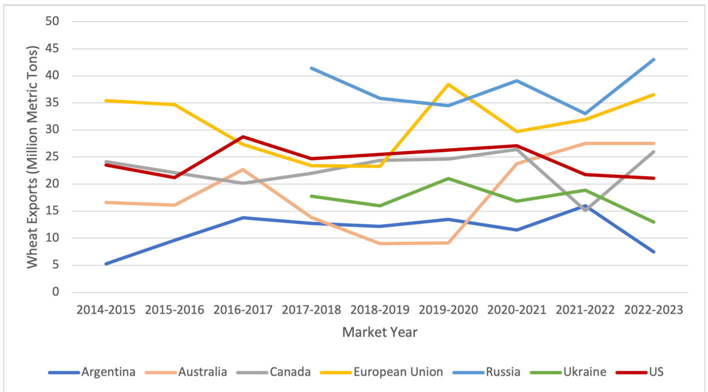
Source: USDA WASDE Report (January 2023, January 2021, January 2019, January 2017)

The major corn exporters globally over years are shown in figure 1. The United States is the largest corn exporter over the years, followed by Brazil, Argentina, Ukraine, South Africa, and Russia (January 2023 WASDE Report). Ukraine has been China's dominant supplier of corn (Paulson et al., 2022). A shift towards imports of more U.S. corn to China began in 2020 due to the poor harvest of Ukrainian crops (He et al., 2021). Corn exports in the US have been declining since the 2020/2021 marketing year. During the same period, corn exports in Brazil have significantly increased, implying that Brazil has substituted for the U.S. in the export market.

Figure 2 presents the projected amount of soybean exports by major soybean exporters globally from the 2014-2023 marketing years. The U.S. and Brazil have dominated the global soybean market. Brazil is projected to exceed the U.S. as the largest soybean exporter since the 2015/2016 marketing year. Over 82% of the world's soybean production and nearly 90% of soybean exports come from the U.S., Brazil, and Argentina (Paulson et al., 2022).

Figure 3 illustrates the estimated wheat exports over years by the 7 major exporters (January 2023 WASDE Report). Russia and Ukraine are prominent exporters, providing nearly 30% of global wheat exports (Paulson et al., 2022). The estimated exports by Ukraine decreased tremendously for the 2021/2022 marketing year and are expected to continue to decrease in the 2022/2023 marketing year. This is clearly a consequence of the ongoing Ukraine war, which has been affecting the logistics as well as production. EU, U.S., and Canada are also major producers and exporters of wheat. Other countries with fairly large wheat exports include Australia and Argentina.

Figure 3: Major Wheat Exporters, 2014-2023

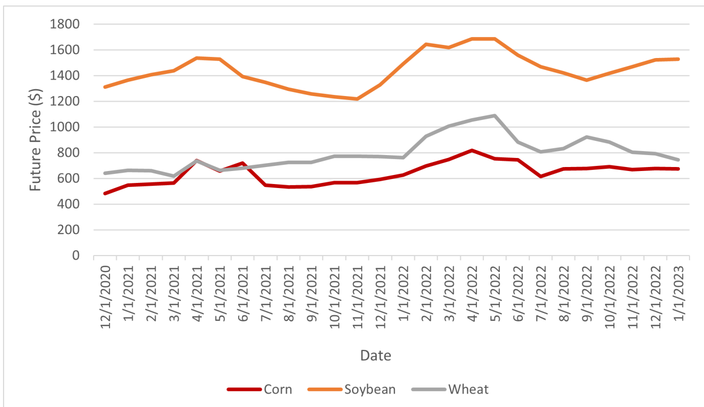


Source: USDA WASDE Report (January 2023, January 2021, January 2019, January 2017)

Review of Commodity Prices

The prices of futures contracts for corn, soybeans, and wheat are shown in figure 4. Particularly, corn and soybean prices at the beginning of 2022 were already elevated (Janzen, March 2022) due to strong global demand, and high fertilizer expenses (Janzen, June 9, 2022), and La Niña-induced drought in South America. Prices for all commodities in Figure 4 increased in February 2022 from an already elevated level when Russia initiated military operations in Ukraine. The market reaction was swiftest and strongest in wheat (Janzen, March 2022). The current market price structure suggests lower but still elevated corn, soybean, and wheat prices for the marketing period for the 2022 and 2023 crops (Janzen, June 9, 2022).

Figure 4: Monthly Future Price for Corn, Soybean and Wheat



Source: Investing.com as of January 17, 2023

Conclusion

In conclusion, we are seeing bullish signals across the board–below-the-trend U.S. crop supplies, low beginning stocks, and relatively stable crop demand. Given the circumstances, the harvest in Brazil and China's re-opening effect will be the two largest game changers in the 2022/2023 market. As shown above, the competition between the U.S. and Brazil is becoming more intense. Brazil and other South American countries are projected to deliver enormous crops this year, based on planting date. Thus, depending on the crop progress, the market will likely swing significantly. The second game changer is the extent to which the economic rebound will be as a result of the Chinese re-opening policy. If the Chinese economy quickly returns to the pre-pandemic track following the re-opening policy, US exports will possibly benefit from an increased global demand.

Reference

He, X., D.J. Hayes, and W. Zhang. 2021. "China's Agricultural Imports under the Phase One Deal: Is Success Possible?" CARD Policy Brief 20-PB 29, Iowa State University.

Janzen, J. "WASDE Recap for November 2022: No News is Just No News." farmdoc daily (12): 171, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, November 14, 2022.

Janzen, J. "WASDE Report Recap for June 2022: Small Changes and Season Average Price Forecasts." farmdoc daily (12):88, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 13, 2022.

Janzen, J. "A 2022 Review of the Farm Bill: Economic Perspectives on Title I Commodities." farmdoc daily (12):86, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 9, 2022.

Janzen, J. "Agricultural Commodity Markets Reaction to the Ukraine-Russia Conflict." farmdoc daily (12):30, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 7, 2022.

January 2023 World Agricultural Supply and Demand Report. WASDE Report. U.S. Department of Agriculture. January 12, 2023.

Paulson, N., J. Janzen, C. Zulauf, K. Swanson and G. Schnitkey. "Revisiting Ukraine, Russia, and Agricultural Commodity Markets." farmdoc daily (12):27, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, February 28, 2022.