Farmland: A Historically Stable Asset During Uncertain Times

Ending 2022 with net positive returns of nearly 10%, farmland continues to demonstrate its resiliency amidst heightened market volatility, outperforming major asset classes, including stocks, bonds, and commercial real estate.

Summary

- Despite the negative impacts on several sectors across the global economy in the last three years, farmland continued to produce attractive returns. Farmland's returns are particularly impressive on a risk-adjusted basis.

- Driven by its low volatility and lack of correlation with most other assets, the inclusion of farmland in a portfolio can help provide overall stability, even during adverse market conditions.

- Farmland has provided a strong hedge against rising prices during inflationary environments; since the onset of the COVID-19 pandemic, farmland returns have had a 0.97 correlation with the Consumer Price Index.

On March 11, 2020, the World Health Organization declared the COVID-19 outbreak a global pandemic. The sudden halt in business and supply-chain operations stifled economic growth[1] and resulted in a 40-year record inflation rate of 9.1% in June of 2022. In response to the rising inflation, the Fed increased interest rates at one of the fastest[2] paces in modern history, reaching levels not seen in nearly 15 years.

Financial markets have been equally turbulent. Following a nearly 11-year[3] bull run, the onset of the pandemic sank stocks more than 30%[4] in March 2020, sending the US into its first bear market since 2008. Equities roared back from their 2020 lows and achieved all-time highs[5] in 2021, only to once again enter a bear market in 2022[6]. This sent market volatility to its highest[7] rate in over a decade.

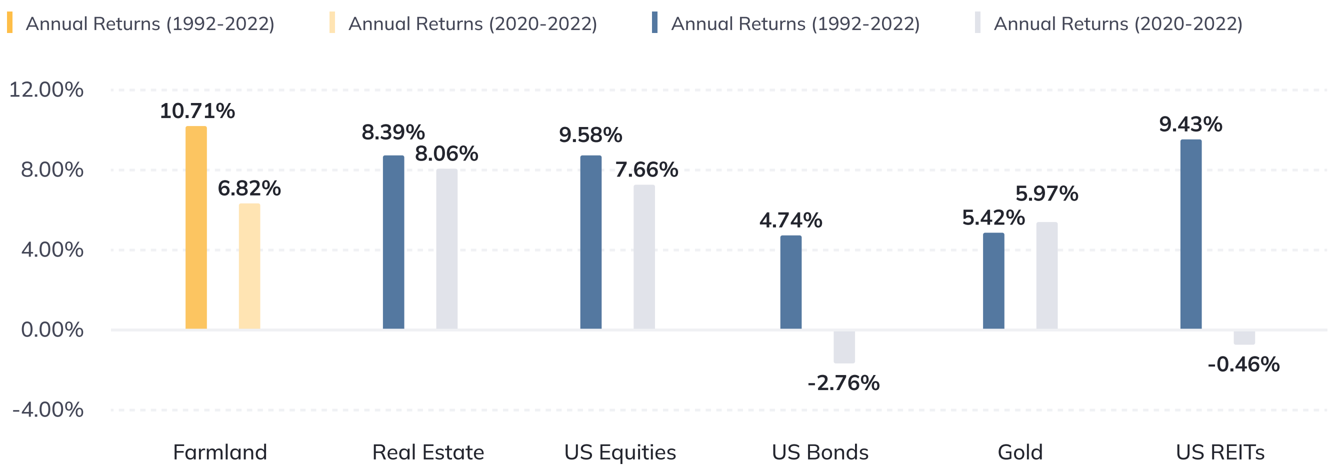
However, while these past three years were marked by high volatility for some assets, this was not the case for all. Farmland, in particular, exhibited remarkable stability during these difficult market conditions while continuing to yield attractive returns.

In this paper, we examine the historical performance of several major asset classes since the onset of COVID-19 and break down the unique characteristics that continue to make farmland a historically reliable store of value.

Competitive Performance

Figure 1 shows average annual total returns across several major asset classes over the last three years (left) alongside farmland's historical performance (income + appreciation) over the last three decades (right), while Figure 2 shows total returns during the same period.

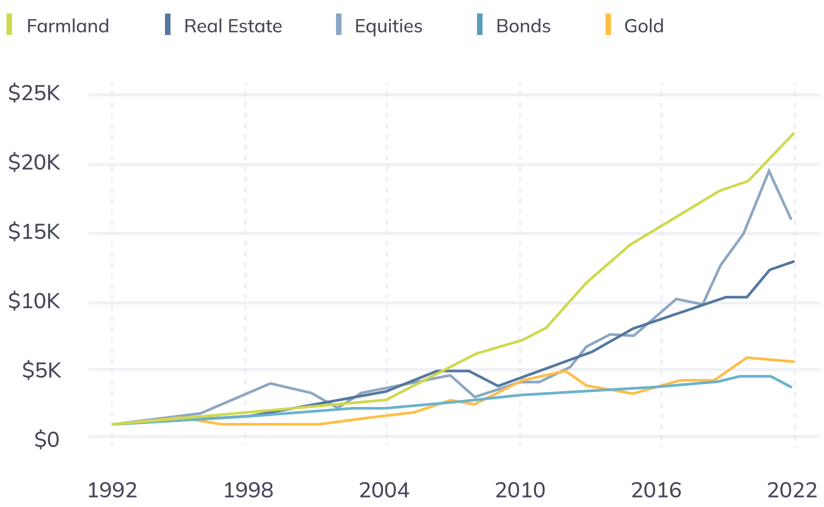
Figure 1: Average Annual Returns of Major Asset Classes, Across Select Periods



Since the onset of COVID-19, average total farmland returns are roughly 4 percentage points below the 30-year average. This drawdown can be attributed to farmland's performance in 2020; led by a host of converging factors, including unprecedented supply and demand shocks to the global food system, farmland posted returns of 3.1%[8] in 2020, its lowest performance since 2001. These shocks included reduced demand for biofuel, labor shortages, and a drastic decline[9] in food demand by the service sector.

However, as demonstrated in Figure 2, farmland investments still experienced net positive growth each year since the onset of the pandemic, outpacing each of the assets shown. Looking at long-term performance, farmland has historically provided higher average annual returns (10.71%) than competing assets, including real estate (8.39%), equities (9.58%), bonds (4.74%), gold (5.42%), and REITs (9.43%).

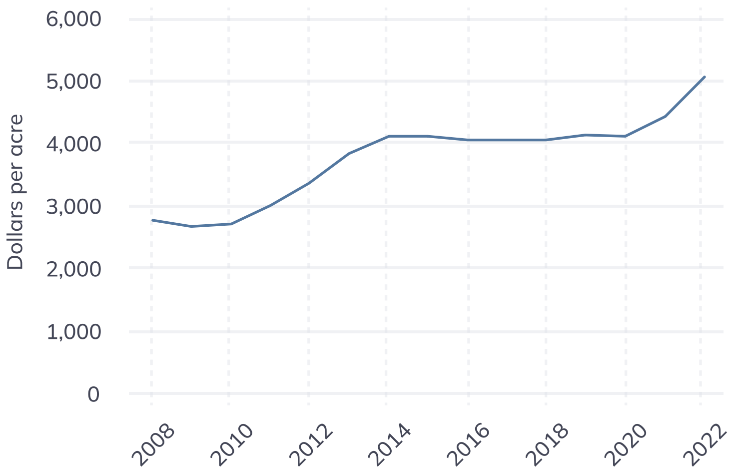
Figure 2: Cumulative Returns of Major Assets, Indexed to $ 1,000



Data are based on annual total returns from January 1, 1992 through December 31, 2022. Asset classes are represented by the following indexes: Equities - S&P 500 Total Return Index; Bonds - Bloomberg Barclays U.S. Aggregate Index; Privately Held U.S. Farmland - NCREIF Farmland Index; Privately Held U.S. Commercial Real Estate - NCREIF Real Estate Index; Gold - LBMA Precious Metal Prices; Publicly Traded U.S. REITs - FTSE Nareit U.S. Real Estate Index. Indexes are unmanaged and unavailable for direct investment.

Farmland's overall profitability was driven, in part, by stable agricultural cropland values, as illustrated in Figure 3 below. Notably, despite farmland's smaller return in 2020, US cropland values did not drop that year; farmland held its value at $4,100 per acre.

Figure 3: Growth in Average US Cropland Value



Sources

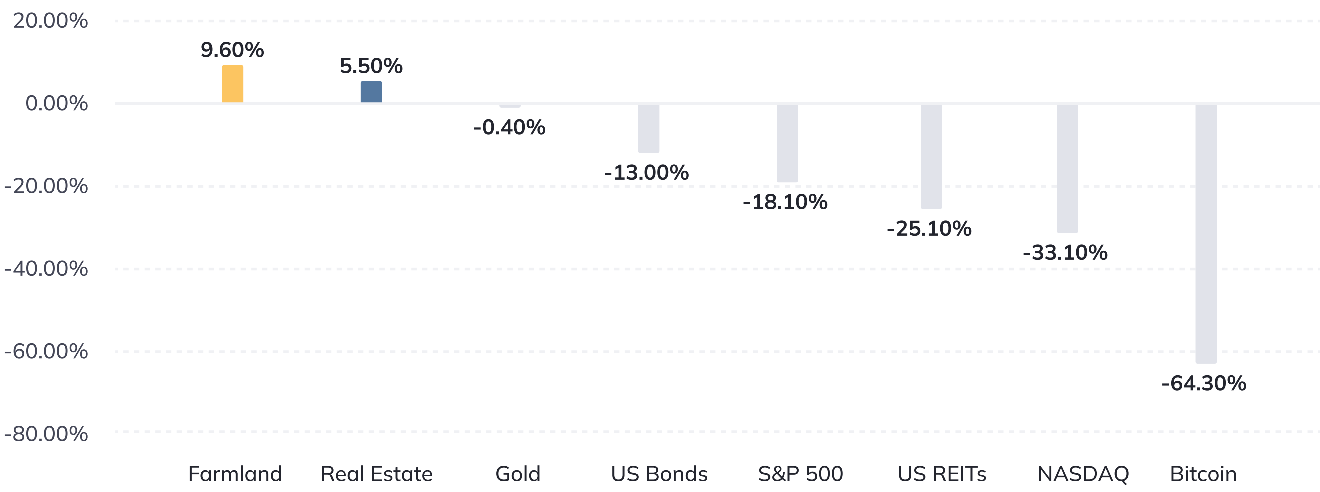
USDA National Agricultural Statistics Service Information (NASS) - August 2022

As demonstrated to the left, 2022 posted a solid performance for farmland: average cropland values are currently sitting at a record[10] $5,050 per acre, up 14% from 2021. This growth can be attributed to strong commodity markets[11] and a growing demand for farmland that outpaces supply; total land in farms decreased by 1.9 million acres in 2022, according to the USDA[12].

Long-term, we expect farmland's supply and demand fundamentals to support steady increases to land values.

From a returns perspective, farmland outperformed every major asset reflected in Figure 4 by a significant margin in 2022. Farmland offered returns of over 9%, while real estate returned just 5.5%, the S&P 500 returned -18.1%, and the Barclays Aggregate Bond Index returned -13%.

Figure 4: Farmland Outperformed Leading Asset Classes in 2022



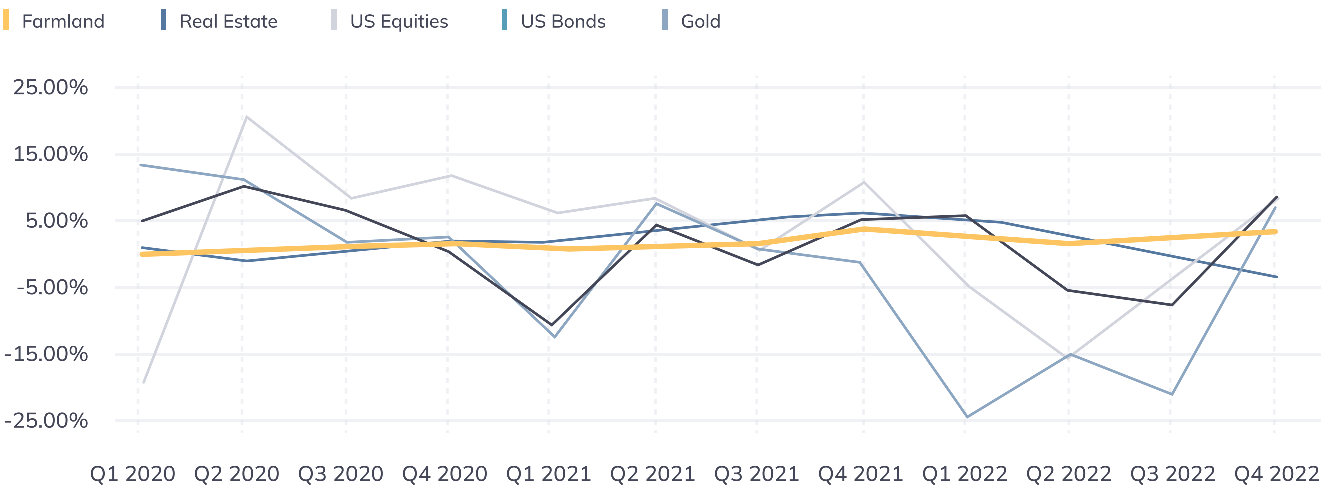
Sources

Data are based on annual total returns from January 1, 2022 through December 31, 2022. Asset classes are represented by the following indexes: Equities - S&P 500 Total Return Index, NASDAQ Index; Bonds - Bloomberg Barclays U.S. Aggregate Index; Privately Held U.S. Farmland - NCREIF Farmland Index; Privately Held U.S. Commercial Real Estate - NCREIF Real Estate Index; Gold - LBMA Precious Metal Prices; Publicly Traded U.S. REITs - FTSE Nareit U.S. Real Estate Index; Bitcoin - BTC/USD. Indexes are unmanaged and unavailable for direct investment.

Portfolio Stability

This period additionally demonstrates farmland's stability in turbulent markets. From 2020-2022, farmland experienced the lowest standard deviation among the assets shown, as demonstrated by Figure 5. Farmland's standard deviation was just 3.39%; meanwhile, the standard deviation of the NCREIF Real Estate Index was 8.39%, while the standard deviation of the S&P 500 topped 24.60%, more than 7x higher than that of farmland.

Figure 5: Farmland Experienced Less Volatility Than Competing Assets



Sources

Data are based on annual total returns from January 1, 2020 through December 31, 2022. Asset classes are represented by the following indexes: Equities - S&P 500 Total Return Index; Bonds - Bloomberg Barclays U.S. Aggregate Index; Privately Held U.S. Farmland - NCREIF Farmland Index; Privately Held U.S. Commercial Real Estate - NCREIF Real Estate Index; Gold - LBMA Precious Metal Prices. Indexes are unmanaged and unavailable for direct investment.

Farmland held its returns much better than the stock market, as was the case in prior recessions. Notably, while the stock market decreased by 19.8% in Q1 2020, farmland returns decreased by just 0.1%, which was farmland's only negative quarter in 30 years. As discussed prior, farmland returns rebounded, ending the year with net positive growth.

Farmland's historical stability is driven by a variety of factors. The demand for agricultural products is generally inelastic in character, and tends to remain consistent throughout the economic cycle. Additionally, farmland markets, similar to real estate, are relatively illiquid[13], which can help shelter the asset from market-wide selloffs or short-term crop price fluctuations.

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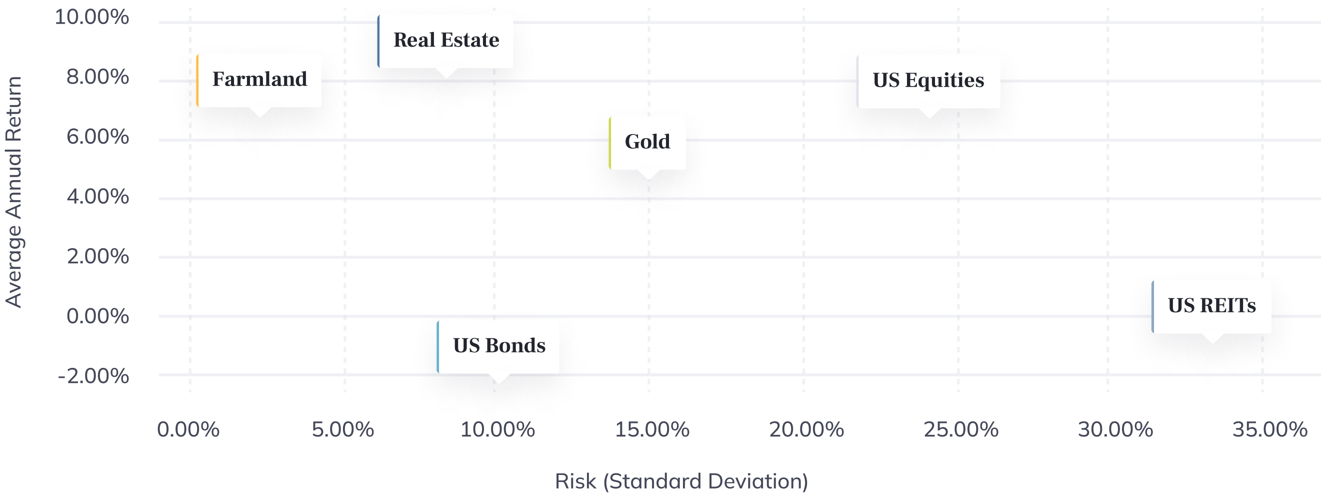
Oregon

> Thus, when considering farmland's stability throughout this period, farmland's risk-adjusted returns are particularly attractive, as illustrated in Figure 6. From a portfolio perspective, this means that adding farmland can result in a higher Sharpe Ratio — a metric used to evaluate returns on a risk-adjusted basis.

Figure 6: Farmland Demonstrated the Strongest Risk/Return Profile



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Because of its tendency to move independently from the markets, farmland has a historically low correlation with conventional assets, amplifying the asset's role in portfolio stabilization. Since 2020, farmland has had a negative correlation with most other asset classes, as demonstrated in Figure 7.

Figure 7: Correlation Across Major Asset Classes

	Farmland	US Equities	US Bonds	Real Estate	US REITs	Gold
Farmland	1					
U.S. Stocks	-0.55	1				
U.S. Bonds	-0.94	0.80	1			
Real Estate	0.47	0.48	-0.14	1		
U.S. REITS	-0.04	0.86	0.38	0.86	1	
Gold	-0.93	0.20	0.75	-0.76	0.33	1

Sources

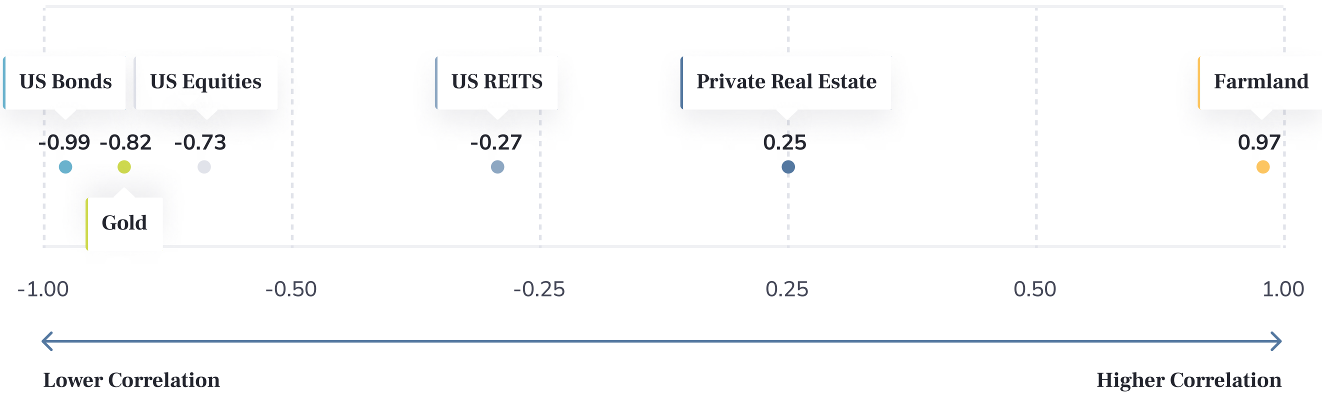
Data are based on annual total returns from January 1, 2020 through December 31, 2022. Asset classes are represented by the following indexes: Equities - S&P 500 Total Return Index; Bonds - Bloomberg Barclays U.S. Aggregate Index; Privately Held U.S. Farmland - NCREIF Farmland Index; Privately Held U.S. Commercial Real Estate - NCREIF Real Estate Index; Gold - LBMA Precious Metal Prices; Publicly Traded U.S. REITs - FTSE Nareit U.S. Real Estate Index. Indexes are unmanaged and unavailable for direct investment.

Inflation-Hedging Qualities

The same characteristics that help protect farmland returns from market shocks have also benefited farmland during times of rising inflation. Farmland returns are inherently tied to food prices, which rise in lockstep with inflation; in 2022, food prices increased by 9.9%[13]. As demonstrated previously in Figure 3, these strong commodity prices are reflected by the jump in cropland values.

From 2020-2022, farmland's correlation to the Consumer Price Index (CPI) was 0.97, a near-perfect correlation to rising prices. This relationship is nearly 4x as strong as the next major asset class, as demonstrated in Figure 8.

Figure 8: Correlation to Consumer Price Index (CPI)



Sources

Data are based on annual total returns from January 1, 2020 through December 31, 2022. Source: Consumer Price Index - Urban. Asset classes are represented by the following indexes: Equities - S&P 500 Total Return Index; Bonds - Bloomberg Barclays U.S. Aggregate Index; Privately Held U.S. Farmland - NCREIF Farmland Index; Privately Held U.S. Commercial Real Estate - NCREIF Real Estate Index; Gold - LBMA Precious Metal Prices; Publicly Traded U.S. REITs - FTSE Nareit U.S. Real Estate Index. Indexes are unmanaged and unavailable for direct investment.

The impact of inflation on farmland returns depends on the management structure. For example, in a direct operating agreement, often seen with permanent crops, investors' returns are directly tied to crop prices. As a result, investors are able to reap the rewards of higher crop prices, which can factor into higher annual income. In a fixed lease agreement, often seen with row crops, investors' returns are less impacted by price fluctuations or changes in operational costs.

In either case, farmland investors are well suited to preserve, and in some cases grow, their capital in times of rising inflation.

> With continued uncertainty on the horizon, today's financial environment highlights that now might be an attractive time for investors to diversify their portfolios into safe-haven assets. As demonstrated in this paper, farmland has proven to be a stable, uncorrelated investment throughout this tumultuous period and several decades prior, demonstrating the resiliency of this asset class in any environment.

For more information, please visit FarmTogether.com

Definitions:

1 **Average Annual Return:** The average annual return for the respective asset class, calculated as the geometric mean of the annual returns from 1992 - 2022.

2 **Volatility:** The standard deviation of the annual returns for each respective asset class from 1992 - 2022.

3 **Sharpe Ratio:** Measure of risk-adjusted return calculated by subtracting the risk-free rate from the specific asset's average annual return divided by its volatility.

4 **Correlation to the CPI:** Correlation of the respective asset class' annual returns and the Consumer Price Index Annual Average 12-Month Percent Change.

References:

1 WorldBank - Global Economic Prospects report (June 2020)

2 Federal Reserve - Effective Federal Funds Rate (July 2000 to March 2023)

3 University of Idaho - History of U.S. Bear & Bull Markets (1926 to 2019)

4 S&P 500 Index - 5 Year Performance

5 S&P 500 Index - 5 Year Performance

6 US Bank - How far will the market correction go? (March 2023)

7 LPL Financial - Is 2022 One Of The Most Volatile Years Ever For Stocks?

8 NCREIF Farmland Property Index Quarterly Returns (1Q2020)

9 USDA - America's Farmers: Resilient Throughout the COVID Pandemic

10 USDA - Land Values 2022 Summary (August 2022)

11 Bloomberg Markets - Commodities

12 USDA - Land Values 2022 Summary (August 2022)

13 Nuveen - Institutional farmland ownership

14 USDA - Food Price Outlook, 2023

Data representative from January 1992 through December 2022. Sources: Privately Held U.S. Farmland - NCREIF Farmland Index; Privately Held U.S. Commercial Real Estate - NCREIF Real Estate Index; Equities - S&P 500 Total Return Index; Bonds - Bloomberg Barclays U.S. Aggregate Index; Publicly Traded U.S. REITs - FTSE Nareit U.S. Real Estate Index; Gold - LBMA Precious Metal Prices. Indexes are unmanaged and not available for direct investment.