THE **EVOLUTION** OF **FARMLAND** AS AN **INSTITUTIONAL ASSET**

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THE EVOLUTION OF FARMLAND AS AN INSTITUTIONAL ASSET

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Farmland markets have evolved tremendously over time as investors have shifted their focus away from traditional stock and bond investing toward alternative asset classes like farmland which presents its own unique opportunities and challenges. A defining period for evaluating farmland as an institutional asset class occurred more than 15 years ago when investors found themselves suffering from tremendous losses in the stock market. Previously, farmland was largely thought of as an asset class for farmers and ranchers, not institutional investors. However, as investors looked for ways to achieve the security of investing in treasuries while maintaining equity-like returns, farmland emerged as an institutional asset. Some early investors began investing in agricultural real estate in the 1980s, but up until the Great Financial Crisis in 2008, it was largely dominated by producers and small private investors. The focus of this analysis is to investigate the trends in farmland markets before and after the 2008 market crisis. This analysis will discuss how institutional ownership of farmland evolved after this event as well as the drivers of this change and how we may be on the cusp of another age in farmland investing.

U.S. FARMLAND AND AGRICULTURAL SECTOR PERFORMANCE BEFORE 2008

Prior to the Great Recession, farmland was not part of most asset allocation strategies. The allure of Wall Street and the fast-paced lifestyle of equity markets dominated portfolio allocation strategies. Of course, corporate debt, treasuries, gold, and commercial real estate had their place as a diversification tool, but the world was infatuated with the stock market. To the people working on Wall Street in New York City, farmland wasn't a sensation like the stock market, it was just something farmers bought.

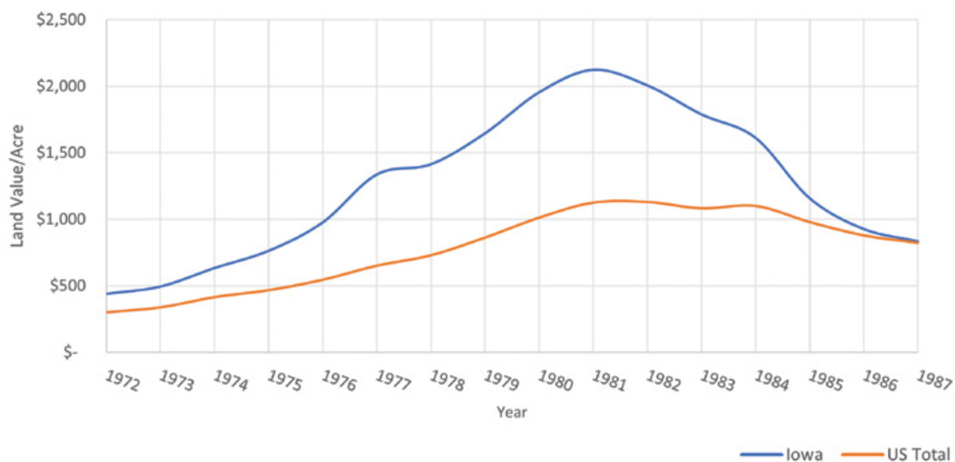
There were a few early investors in farmland who saw its potential in the 1980s such as Murray Wise, who founded Westchester Group (now owned by Nuveen, a TIAA Company), and the John Hancock Mutual Life Insurance Company (now Manulife). Many of these early investors entered at a time when farmland was still recovering after its relative downfall from the 1980s Farm Crisis. The 1970s were seen as a prosperous time for U.S. farmers even while the rest of the country was plagued with rising inflation. Commodity prices rose significantly after the Assistant Secretary of Agriculture, Earl Butz, told U.S. farmers to "get big or get out" after the United States negotiated a $750 million grain deal with the drought-stricken Soviet Union in 1972.[1] The rising farm income from commodity prices meant farmland was appreciating at a fast rate. Just for reference, farmland values in Iowa more than tripled during this time from an average value of $440/acre in 1972 to $2,124/acre in 1981.[2]

Eight years later it all changed when the Soviet Union invaded Afghanistan and United States President Jimmy Carter embargoed them from purchasing U.S. grain. This embargo affected more than $2.6 billion of agricultural products and farm real estate holders felt the brunt of the attack as farmland values plummeted. That same acre of farmland in Iowa that was worth $2,124 in 1981 was valued at $835 just six years later in 1987. While highly productive agricultural states were affected the most, the entire United States felt the sting of what was called the 1980s Farm Crisis with the average farmland price in the U.S. declining from $1,123/acre in 1981 to $822/acre in 1987.[2]

The 1980s Farm Crisis brought about great change in U.S. agriculture as many farms went bankrupt after rising interest rates and falling land prices caused some landowners to be upside down on their operations. The crisis forced many farm operations to become more financially focused as stricter credit standards in agricultural lending arose as a result of legislative efforts and lenders feeling the burn of loan losses. After the 1980s, farmland returned to its strong appreciation and income rates and farmland boasted a strong average year-over-year return of 10.2% from 1988 until 2007. While the volatility of returns was a concern during the Farm Crisis, farmland demonstrated a low coefficient of variation of .32.[2]

FIGURE 1 **Average Land Price from 1972 to 1987**

Sources: USDA, TIAA Center for Farmland Research



IMPACT OF THE GREAT FINANCIAL CRISIS ON FINANCIAL MARKETS

The investment world was forever changed in 2007 when the first signals toward a recession began to take shape and the Federal Reserve began lowering interest rates to spur economic development. Unfortunately, the path towards a recession was already cut too deep in the American economy and the housing market crashed while millions of Americans found themselves unemployed. Unable to pay their mortgages, many Americans had their homes foreclosed upon and the lenders of those homes found themselves in a similar situation as the 1980s Farm Crisis when many landowners became upside down on their farmland. Companies that specialized in providing loans to borrowers with "sub prime" credit quality were suddenly losing billions of dollars on these mortgage loans. Several of these companies went out of business or filed for Chapter 11 bankruptcy. However, the most significant blow to markets occurred when the U.S. Treasury took over Freddie Mac, a subsidiary of the privately owned company IndyMac, and the Federal Mortgage Association, Fannie Mae. Collectively, the companies had guaranteed 80% of all U.S. home mortgages, and 30% of those were now underwater meaning they were valued at less than the remaining balance on the mortgage. One week after the government takeover, the esteemed brokerage firm Lehman Brothers declared bankruptcy and its $619 billion in debt constituted the largest bankruptcy case in U.S. history.[3]

As a result of the crash, markets went into a freefall with stock prices crashing roughly 50% from October 2007 to March 2009.[4] Major indexes suffered

immensely and investors in the U.S. stock market lost roughly $7.4 trillion, or around $66,200 per household, from 2008 to 2009.[5] Virtually every industry was affected in some way and on December 16th, 2008, the Federal Reserve slashed short term interest rates to 0% for the first time in an effort to spur lending activity. Still feeling the effect of the housing crash and with many banks struggling financially, banks continued to reduce their level of lending and more expensive long-term rates discouraged businesses from financing expansionary projects. Unable to cut short-term rates further, the Federal Reserve began its Quantitative Easing strategy to expand its balance sheet in hopes of driving long-term rates down to a level that would encourage more lending and ultimately spur more economic development. To achieve this, the federal government made money appear out of thin air by printing more so that it could purchase long-term treasuries from major financial institutions which these institutions would then use to invest in their lending portfolios.[6]

This quantitative easing strategy along with other microeconomic influences eventually helped the U.S. recover, but investors continued to feel the pain. Up until 2008, investors largely used treasuries as a way to mitigate portfolio risk from traditional stock and bond investing. The 1-year, 5-year, and 10-year treasury had an average return of 7.0%, 7.9%, and 8.2% respectively in the 20 years before 2007. By 2008, returns to these treasuries were 1.8%, 2.8%, and 3.7% respectively, and continued to fall throughout the 2010s.[2] With the stock market crashing, corporate credit quality falling, and treasury securities producing low returns, investors looked for new opportunities in investing outside of the scope of traditional investing. Searching for the next darling of their portfolios, investors began falling in love with farmland, because frankly, they didn't have anything else to be in love with at the time.

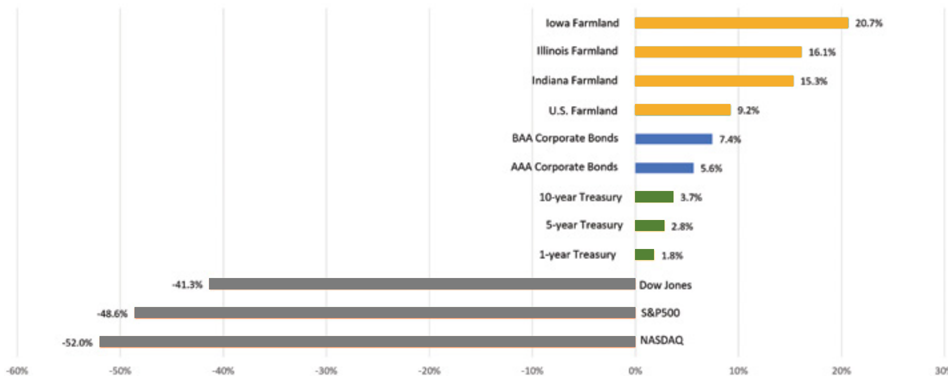
THE EXPANSION OF FARMLAND AS AN INSTITUTIONAL ASSET

While equity and fixed-income markets suffered during 2008, farmland came away from the recession relatively unscathed. According to the USDA Land Values Summary, U.S. Farmland returned on average 9.2% during this period with the popular agricultural producing "I-States", Iowa, Illinois, and Indiana returning 20.7%, 16.1%, and 15.3%, respectively, during this time.[2] Some were concerned that the crash of the commercial and residential real estate sectors would eventually make its way to the agricultural sector, but high commodity prices supported farmland values while low interest rates benefited farmers' balance sheets during this time.

The Great Financial Crisis signaled to institutions that farmland could potentially be used as a diversification tool in combination with more

FIGURE 2 **Returns of Selected Assets in 2008**

Sources: USDA, TIAA Center for Farmland Research



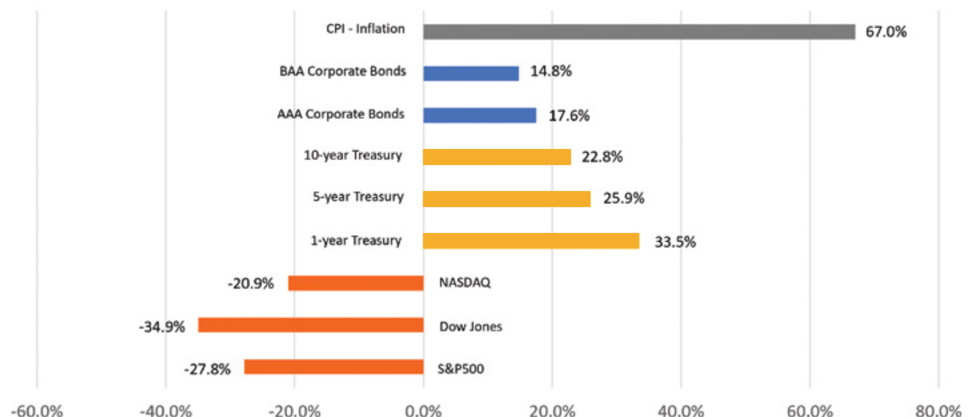
traditional assets such as equity and fixed income. After expanding the scope to look at a historical perspective, farmland historically shows a negative correlation with equities suggesting what occurred in 2008 was not a one-off event. With careful examination of market patterns, there have been other points in history where equities demonstrated low or negative returns while farmland returned double-digit numbers. Farmland also typically performs better on a risk-adjusted basis with an average coefficient of variation of .66 compared to equities at 2.27 from 1970 to 2023.[2] Coefficient of Variation is a measure of volatility of an asset translating to the ratio of standard deviation to the mean return. A lower coefficient of variation suggests there is a better risk-return tradeoff for a specific asset. Farmland has also come to be known as an inflation hedge asset with its historically strong positive correlation with the consumer price index.

There are many factors at work that can explain this relationship based on the period examined but there is one consistent factor always at place: regardless of what is happening in the world, people still need to eat, and farmland is quite literally the key ingredient to that. Investors took notice of farmland's potential and started finding ways to capitalize on it in a variety of different ways. Some took the path of direct ownership, but this presents its own challenges of managing the day-to-day operations of a farm parcel. Institutions noticed this issue and began offering farmland fund issuances to investors. In this search of institutional knowledge, educational events started being offered such as the Global Ag Investing Conference which held its first event in 2009[7], and the Land Investment Expo which was first held by Peoples Company in 2008.[8]

Many farmland funds began between 2010-2012 and by 2015 everybody wanted a piece of the action. Unlike traditional asset classes, there is no centralized marketplace for farmland as it is not a uniform asset class meaning farmland assets must be carefully vetted and analyzed to determine suitability within a larger investment portfolio. Farmland is also closely held with less than 2% of farmland changing hands at arms-length every year making acquiring new properties difficult.[9] During this period, institutional investors bolstered their asset management teams and

FIGURE 3 **Correlation of Selected Assets and Inflation with U.S. Farmland from 1970 to 2023**

Sources: USDA, TIAA Center for Farmland Research



sought capable managers with a deep understanding of farmland and investment dynamics. The management of farmland by institutions took managers who could not only be effective stewards of the investment portfolio but also of the land itself.

EVOLUTION OF INSTITUTIONALLY OWNED FARMLAND 2008 TO PRESENT

More than 15 years after the Great Financial Crisis, farmland continues to prove its worth as an institutional asset but are institutions still in love with farmland? Most funds that began in the 2011-2012 time frame had a 10-year life meaning several came due during 2021-2022. Farmland fund managers found themselves in an ideal capital-raising environment as equity capital made itself available after the market crash in 2008 and cheaper interest rates allowed many funds to lever up their operations. While the Federal Reserve's Quantitative Easing strategy hurt fixed-income yields, it helped those looking to finance farmland investments with low-cost debt. The trend continued throughout 2011-2021 as mortgage rates hovered between 3-5% which only compounded the returns to farmland. Fortunately, many of these farmland funds found themselves with assets that were appreciating greatly after the initial blow of the COVID-19 pandemic, and land values in some parts of the country were up 20-30% in just the last few years. In just ten years, U.S. land values experienced an average appreciation rate of 50% meaning investment funds that came due within the last couple of years most likely exceeded initial return expectations. The National Council of Real Estate Investment Fiduciaries (NCREIF) reports on land returns quarterly from actual reporting on a diversified pool of individual farmland investment properties acquired in the private market.[10] The NCREIF Farmland Index reported an average annual rate of return to be 9.9% for all farmland, 9.5% for annual cropland, and 10.6% for permanent cropland from 2008-2023. The returns to farmland show durable returns over the past 15 years without the volatility of equities and still with a positive correlation with inflation.[2]

TABLE 1 **Asset Return Characteristics**

Sources: NCREIF, TIAA Center for Farmland Research

Asset/Index	Annual Ave. Return	Standard Deviation	Coefficient of Variation	Min Avg Yearly Return	Max Avg Yearly Return
------ 2008 - 2023 -------------					
S&P500	7.4%	19.1%	2.60	-48.6%	25.9%
Dow Jones	6.5%	15.4%	2.36	-41.3%	23.5%
NASDAQ	10.8%	25.1%	2.31	-52.0%	36.4%
1 - Year Treasury	1.1%	1.3%	1.18	0.1%	5.1%
5 - Year Treasury	1.9%	0.9%	0.48	0.5%	4.1%
10 - Year Treasury	2.5%	0.8%	0.31	0.9%	4.0%
AAA Corporate Bonds	4.1%	0.8%	0.20	2.5%	5.6%
BAA Corporate Bonds	5.2%	1.1%	0.21	3.4%	7.4%
NCREIF Total Farmland	9.9%	5.1%	0.51	3.1%	20.9%
NCREIF Annual Cropland	9.5%	4.8%	0.50	4.2%	17.4%
NCREIF Permanent Cropland	10.6%	8.4%	0.79	-2.9%	29.8%
CPI - Inflation	2.4%	1.8%	0.76	0.0%	6.9%

After years of appreciation and staggering returns, it seems like institutional investors would be eager to redeploy capital back into the space, but it doesn't seem like that is the case. Several institutions have been liquidating out of their initial farmland assets and aren't looking to raise capital for new farmland funds. Higher interest rates due to the Federal Reserve's efforts to combat inflation have made fundraising difficult and also more expensive, particularly for small funds. Rising interest rates mean the returns to treasuries and other fixed-income assets are becoming more attractive. These assets were once the original inflation hedge and diversification tool for portfolios and didn't come with the management issues that real estate assets like farmland can have.

ISSUES OF MANAGING FARMLAND FROM AN INSTITUTIONAL PERSPECTIVE

Farmland, like any piece of real estate, comes with its distinctive challenges. As mentioned previously, farmland is unique in that each parcel is unique. For example, land in California can bring about concerns over water or concerns unique to whether it is an annual commodity crop, permanent crop, or specialty crop. The management of a vineyard in Napa Valley looks vastly different than the management of a cornfield in the Midwest. Not only is specialized knowledge in agriculture needed from a farmland asset manager

but also a further specialization based on the crop type and a strategic background in lease types and infrastructure for those crops. The asset manager must be appraised of the local market dynamics, which often comes from being located strategically in the main agriculturally producing areas. A farm manager may also need knowledge of energy opportunities or projects. Recently, farmland has become the subject of a national push towards renewable energy in the wind, solar, renewable fuel, and carbon storage space. Asset managers are not only managing a farm lease, but they could also be managing multiple energy projects on the same parcel.

As stewards of a portfolio and of the land, asset managers also look for ways to boost returns among individual assets while benefiting the land. In agricultural land, one of the main ways of boosting returns to a parcel is by completing capital improvement projects such as implementing drainage tile, irrigation systems, or agronomic improvements to boost soil health. Oftentimes, farm asset managers also need to work with other stakeholders like crop insurance agents or crop marketing specialists to ensure durable cash flows. Another way asset managers are boosting returns to farmland and working to ensure a more sustainable future is by incorporating more environmentally friendly practices such as conservation, reduced tillage, and regenerative practices. A farm asset manager wears many hats. They have to be financially minded, exert themselves in all things agriculture, and be able to adjust to new trends in energy and sustainability. Developing farmland asset management teams that provide this range of specific geographic and agricultural operations skill sets is challenging to scale at an institutional level. Traditional financial asset managers oftentimes do not have the boots on the ground to wear these kinds of hats and meet the necessary reporting requirements many investment funds involve.

OPPORTUNITIES FOR THE FUTURE

So, what is the long-term outlook for investing in farmland? After setting the sun on their 10-year farmland funds, many institutions have offloaded their agricultural asset management groups and are resorting to a more traditional investment thesis by investing in fixed income or other alternative asset classes to achieve their diversification goals. The recent run-up in land values also has fund managers concerned about relatively high acquisition prices. Asset managers may be asking themselves *"Why would I invest in farmland when I can get a treasury bill at 5%?" But the question they should be asking themselves is "How can I optimize my farmland portfolio?"* Even though treasuries and fixed income have experienced relative

increases over the past four years, farmland shows stronger levels of performance that have kept up with the inflation rate without the volatility of equities. While we know that past performance isn't necessarily indicative of future returns, the long-term future of agriculture is bright. Agriculture will continue to be necessary to sustain our growing world population and new advancements in the energy space mean that the land could also help solve our energy issues as well.

Diving deeper into the economics of agriculture as a whole, the industry continues to evolve, grow, and become more sustainable both from an environmental and financial perspective. Agriculture is at the forefront of economic growth as the world population grows meaning the U.S. government wants to ensure the longevity of this important strategic resource. The federally subsidized crop insurance program helps to make sure the asset class continues to thrive meaning the income generated from farmland comes with more security than other alternative asset classes. Not only does farmland come with a $107.7 billion crop insurance industry[11], but it also has the potential to diversify its revenue sources through sustainable energy projects like wind, solar, renewable energy, and carbon storage. At the 2024 Land Investment Expo, Dr. David Muth, Managing Director of Peoples Company Capital Markets, quantified this effect suggesting it could have a $400 billion effect on land values and agricultural income by 2050.

TABLE 2

Asset Return Characteristics

Sources: NCREIF, TIAA Center for Farmland Research

Asset/Index	Annual Ave. Return	Standard Deviation	Coefficient of Variation	Min Avg Yearly Return	Max Avg Yearly Return
	------ 2020 - 2023 -------------				
S&P500	9.7%	18.4%	1.89	-21.6%	23.8%
Dow Jones	7.0%	10.0%	1.44	-9.2%	17.2%
NASDAQ	12.9%	31.4%	2.44	-40.2%	36.2%
TCM1Y	2.1%	2.0%	0.97	0.1%	5.1%
TCM5Y	2.1%	1.5%	0.69	0.5%	4.1%
TCM10Y	2.3%	1.2%	0.52	0.9%	4.0%
AAA	3.5%	1.0%	0.27	2.5%	4.8%
BAA	4.5%	1.0%	0.23	3.4%	5.9%
NCREIF Total Farmland	6.3%	2.5%	0.39	3.1%	9.5%
NCREIF Annual Cropland	10.0%	3.7%	0.37	4.2%	14.4%
NCREIF Permanent Cropland	0.9%	2.3%	2.49	-2.9%	3.1%
CPI	4.4%	2.3%	0.51	1.3%	6.9%

Not only is the industry growing from a revenue perspective but it is also growing in data. The advancements in agricultural technology and growth in reporting mean there is more data than ever before to make informed decisions. The rise of real-time information demand and data reporting advancements led to the creation of the NCREIF Farmland Index in 1991, providing comprehensive insights into farmland values. The increasing availability of data surrounding farmland makes it easier for asset managers to help individuals optimize their farmland holdings.

From an economic perspective, there has never been a better time to get involved with farmland. As previously described, farmland traditionally has a positive correlation with inflation and one of the big factors that drives inflation is government spending. Considering the United States has a mounting debt level of almost $35 trillion, it is unlikely that there won't be an inflation problem again.[12] Some people are concerned that farmland prices are too high, and the relatively low turnover

rate may make it difficult to make acquisitions. However, transactions will likely slow in the coming year as commodity prices are low, meaning many farm operators and landowners aren't chasing the asset class.

As a fund manager, those same concerns people have over the management of farmland could be the next opportunity. Using different lease types like custom farming or flex leases, diversifying into different specialty markets or energy projects, and optimizing crop insurance strategies, managers can find ways to "farm" out lasting returns. Finding a strategic partner who understands the farm acquisitions market and opportunities in agriculture has never been more important. The digitization of agriculture has expanded the availability of farmland returns data so asset managers can help investors make more informed decisions. Now is the time for expansion, not a retraction, as long as the right asset manager partner exists who can help investors make educated decisions and optimize returns. Ten years from now, you won't remember if you paid a little too much for farmland, you'll just be glad you bought it.

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