Association of Governing Boards
Foundation Leadership Forum

Why invest in farmland now.?  

WESTCHESTER from nuveen

26 January 2021
Westchester: investing globally since 2007

Our investments are anchored around developed markets, with opportunistic investment in developing markets.

- **U.S. PERM**: $2.3B, 57k acres
- **U.S. ROW**: $1.8B, 273k acres
- **CHILE PERM**: $0.04B, 4.6k acres
- **BRAZIL PERM**: $0.04B, 20k acres
- **EU ROW**: $0.7B, 175k acres
- **AU PERM**: $0.04B, 3.3k acres
- **AU ROW**: $1.1B, 882k acres
- **NZ PERM**: $0.02B, 65k acres

Data as of 31 Dec 2019. 1 Pensions & Investments, 05 Oct 2020. Rankings based on institutional tax-exempt assets under management as of 30 June 2019 reported by each responding asset manager. 2 Includes partial property divestitures.

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The case for farmland investment
A durable store of value & return throughout market cycles

NCREIF total returns vs. S&P 500 composite

Sources: NCREIF, Haver Analytics. It is not possible to invest in an index. Performance for indices does not reflect investment fees or transactions costs.

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Farmland returns, volatility & correlations

Fixed income diversification

High returns achieved with fixed-income level of volatility
Annual return vs. volatility (1999-2019)¹

Limited correlation to other assets classes and inflation hedge
Correlation of select assets vs. average U.S. farmland (1970-2019)²

¹ As of 31 Dec 2019. Sources: NCREIF, Bloomberg, S&P, BofAML, Russell 3000, MSCI
² Source: TIAA-CREF Center for Farmland Research, Standard & Poor’s, Federal Reserve, MSCI, Commodity Research Bureau, Consumer Price Index. The inception date of the NCREIF Farmland Index is 4Q 1990. The CPI-U produces monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services since 1913. NCREIF Farmland Index returns are used for the time frame above to demonstrate income and capital appreciation components, which are not available from the TIAA-CREF Center for Farmland Research database. It is not possible to invest in an index. Performance for indices does not reflect investment fees or transactions costs.

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Farmland & inflation

U.S. Consumer Price Index (CPI) versus 10-Year Treasury Constant Maturity Rate, 1963 to 2020

- Recent posture and guidance of the FED signals accommodation or promotion of inflationary targets that add pressure to cap and other derived return expectations

- Inflation registers in the prices and incomes of soft commodities and the fixed factors of production producing them

- Farmland is one of the greatest stores of real value in periods of inflation across a large set of conditions, time periods and holding intervals

Source:
2. BLS, USDA, TIAA Center for Farmland Research

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Long-term farmland value drivers

Rising global population and limited supply of farmland...
Population growth and land availability¹

...requires increased farmland productivity
Farmland returns are driven by rising productivity²

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¹ Source: United Nations World Population Forecast 2017 and The World Bank

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Offers upside growth potential

U.S. corn yield (bushels/per acre)\(^1\)

Adoption rates of technology in U.S. agriculture\(^2\)

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2. USDA Economic Research Service, American Economic Association

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Further considerations
Farmland is an untapped & nascent asset class

Value of the farmland investment opportunity

Nominal World GDP\(^1\)
$87.7T

Value of farmland globally\(^2\)
$29T

Institutional ownership\(^3\)
$51B

2019 global invested capital market:
$114.82 T\(^4\)

- Equity 39.5%
- Debt 51.3%
- Alternatives 7.7%
- Real Estate 4.8%
- Private Equity 2.26%
- Infrastructure 0.29%
- Farmland 0.04%
- Timberland 0.04%
- Commodities 0.24%

Source: \(^1\) Worldbank, \(^2\) Savills, \(^3\) HighQuest, \(^4\) AON

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Structural changes require significant outside investment

Ownership and business consolidation

**Farmland Information Centre:** Ownership of 40 percent of the 48 states’ 991 million farm and ranch acres will change hands from 2015 to about 2035

**Farmers National Company:** Over the next five years, ten percent of the 911 million acres of agricultural land in the US will change hands. 1% per year will be sold in the open market, which equates to about 4.25 million acres per year on average available for purchase

**Aimpoint research:** 370 million acres of agricultural lands will change hands in the 48 contiguous states at least once in the 10 to 20 years ending in 2034

**Eurostat:** In 2018, 32% of farm managers in the EU were 65 years of age or more. Only 11% of farm managers in the EU were young farmers under the age of 40 years

Source: Rabobank
Natural capital
Value recognition for more than just agricultural output

Natural capital assets
- Species
- Ecological communities
- Soils
- Freshwater
- Land
- Minerals
- Atmosphere
- Sub-soil assets
- Oceans
- Coasts

Natural capital benefits
- Food
- Fibre
- Freshwater (quality/quantity)
- Recreation
- Clean air
- Wildlife
- Hazard protection
- Equable climate
- Health

Source: The State of Natural Capital; Professor Dieter Helm Chairman, The Natural Capital Committee

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The role of agriculture in combatting climate change

Opportunities: soil and renewables

The amount of carbon in soil is over twice the amount of carbon found in trees and other biomass.

40 percent of the earth’s surface is used for food production, climate-smart agriculture is a scalable solution to reduce carbon emissions and counter climate change.

REGENERATIVE OPERATION of cropland worldwide could sequester between 0.9-1.8 t/acre CO₂/annum.

Since the launch of flex fuel cars in Brazil to December 2018, the production and use of ethanol from sugar cane has reduced emissions by 523 million tons of CO₂ equivalent.

“..Agriculture and land-use change are 25 percent of the greenhouse gas emission problem but potentially could be more than 25 percent of the solution..”

Source: Global Sequestration Potential of Increased Organic Carbon in Cropland Soils (Zomer, Bossio, Sommer, Verchot); Raizen
Summary: The role of institutional capital in farmland ownership

1. Additional source of capital relative to traditional debt
2. Facilitate the separation of operating businesses & capital, allowing family farms to expand
3. Increased liquidity options on exit
4. Additional option for succession planning and implementation
5. Enhancements to sustainability efforts
INVESTING IN AGRICULTURE
EDWARD B. CREEDON, CFA
DIRECTOR OF PRIVATE INVESTMENTS
UIF’S APPROACH TO AGRICULTURE INVESTING

Leverage University’s Strategic Advantage

- Portfolio of direct farmland – approximately 15,000 acres
- Academic and research resources
- Farmland Advisory Council

Portfolio Construction

- Holistic View
- Utilize comingled funds to balance direct exposure
- Invest across the value chain
• Agriculture theme is expressed across multiple asset classes
• 6.3% of total portfolio invested in Agriculture
Discussion

COVID-19 impacts on Agriculture & Food
Current economic situation and outlook

Global GDP (% growth)

Global GDP index 2019Q4=100

Source: OECD

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US spending on food

$12B less in June 2020 than in June 2019

- 2019 average $136B per month
- Early 2020 pattern as normal
- April 2020 drop in restaurant, cafeterias, sport venues by $36B
- Rebound in “away from home” in May & June
- Higher retail store sales not enough to offset

Source: USDA, Economic Research Service (ERS) using data from ESR & Food Expenditure Series

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EU retail trade volume

August 2020 compared with February 2020
(% change)

Source: ec.Europa.eu/eurostat

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2020: Commodity & foreign currency movements

YTD Commodity Indices

- The decline in oil prices put pressure on ethanol demand and impacting both corn and sugar.
- Cotton prices have declined due to direct linkage with consumer activity.
- Wheat and soybean prices were more supported due to concerns around government stockpiling and export restrictions.

YTD Currency Indices

- The US dollar rose against most currencies at the beginning of the COVID-19 crisis but most have since recovered.
- The Brazilian Real has been the hardest hit with recent political turmoil resulting in the currency falling approx. 20% YTD.

Source: Macrobond, June 16, 2020
Data points – farmland returns, activities, exports & demand

YTD 2020 NCREIF returns: stable in volatile macro and market conditions

<table>
<thead>
<tr>
<th></th>
<th>Total Farmland</th>
<th>Row Crops</th>
<th>Permanent Crops</th>
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<tbody>
<tr>
<td>Total</td>
<td>1.47%</td>
<td>2.57%</td>
<td>-0.30%</td>
</tr>
<tr>
<td>Income</td>
<td>1.73%</td>
<td>2.50%</td>
<td>0.47%</td>
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<tr>
<td>Appreciation</td>
<td>-0.26%</td>
<td>0.06%</td>
<td>-0.77%</td>
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Brazil soybean exports: YTD exports 34% higher than 2019

U.S. farmers unaffected by COVID-19 restrictions

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020*</th>
<th>2019</th>
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<th>2019</th>
<th>2020*</th>
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<tbody>
<tr>
<td>Acres planted</td>
<td></td>
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<td>(mn)</td>
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<tr>
<td>Soybeans</td>
<td>76.1</td>
<td>83.1</td>
<td>47.4</td>
<td>51.9</td>
<td>3.6</td>
<td>4.3</td>
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<tr>
<td>Corn</td>
<td>81.3</td>
<td>82.5</td>
<td>167.5</td>
<td>178.4</td>
<td>13.6</td>
<td>14.7</td>
</tr>
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COVID-19 impact on U.S. off premise sales: wine sales are 24% higher than 2019


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As an asset class, agricultural investments are less developed, more illiquid, and less transparent compared to traditional asset classes. Agricultural investments will be subject to risks generally associated with the ownership of real estate-related assets, including changes in economic conditions, environmental risks, the cost of and ability to obtain insurance, and risks related to leasing of properties.

Market forecasts are subject to uncertainty and may change based on varying market condition, political, and economic developments.

Past performance is no guarantee of future results.

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All information is as of 30 June 2020 unless otherwise disclosed.