Midwest Agriculture Conference
Federal Reserve Bank of Chicago
November 2023
A word on risk

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.

As an asset class, timberland investments are less developed, more illiquid, and less transparent compared to traditional asset classes. Timberland investments will be subject to risks generally associated with the ownership of real estate-related assets, including changes in economic conditions, environmental risks, and the cost of and ability to obtain insurance. Market forecasts are subject to uncertainty and may change based on varying market condition, political, and economic developments.

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Responsible investing incorporates Environmental Social Governance (ESG) factors that may affect exposure to issuers, sectors, industries, limiting the type and number of investment opportunities available, which could result in excluding investments that perform well.

Past performance is no guarantee of future results.

Securities offered through Nuveen Securities, LLC, Member FINRA and SIPC.

Nuveen provides investment advisory solutions through its investment specialists. Nuveen Natural Capital is an investment specialist of Nuveen LLC.
The TIAA General Account – owner of Nuveen

Regulations (RBC, statutory accounting) favor high quality **fixed income**...

- **Safe Haven Assets** 7%
- **Public IG Credit** 33%
- **Public HY Credit** 7%
- **Private IG Credit** 20%
- **Private HY Credit** 3%
- **Commercial Mortgages** 13%

- **Fixed Income** 83%
- **Alternatives** 17%

TIAA General Account: $292B (as of 06/30/2023)

... But **alternative assets** are needed to meet long-term return hurdles.

- **Real Estate** 5%
- **Natural Capital** 2%
- **Infrastructure** 1%
- **Private Equity** 4%
- **Op Subs/ Seed Capital** 4%
- **Other** 1%

Fine-Tuned for TIAA:
- Large **Surplus**
- 3% **Rate Guarantees**
- Long **Duration**
- Limited **Liquidity Needs**

Global footprint and diversification gives consistent returns

Nuveen Natural Capital (part of wider $1.1T Nuveen platform)

#1 in farmland assets
Top 10 in timberland
$12.4B AUM
200+ employees
27 local offices
590+ properties

Investing in natural capital since 1986

Major Office Locations: N America: Farmland - Champaign, IL; Chicago, IL; Memphis, TN; Fresno, CA; Napa, CA; Timberland - Portland, OR; Seaside, OR; Central & S. America: Farmland - Sao Paulo, SP, Brazil (shared farmland/timberland office); Piracicaba, SP, Brazil; Botucatu, SP, Brazil; Santiago, Chile. Timberland - Panama City, Panama; Sao Paulo, SP, Brazil (shared farmland/timberland office); Nova Andradina/Campo Grande (Mato Grosso do Sul State), Brazil; Unai (Minas Gerais state), Brazil; Itapexa/Capao Bonito (Sao Paulo State), Brazil; Barranquilla, Colombia; Zambrano Farm, Colombia; Montevideo, Uruguay; EMEA: Farmland - London, England; Warsaw, Poland; Gdansk, Poland; Bucharest, Romania; Amsterdam, The Netherlands; Timberland – Kielceyn, Poland. APAC: Farmland – Wagga Wagga, NSW, Australia; Perth, WA. AUM and Acres listed on map are as of 31 Mar 2022 and are reflective of Fair Market Value. *EU Farmland is reflective of row crop investments in Poland and Romania.

1 Combined permanent and row crops. 2 AUM is reflective of Fair Market Value as of 31 Dec 2022. Sums may vary slightly due to rounding. 3 Gross acres shown. Includes partial property divestitures. 4 Pensions & Investments, 03 Oct 2022 Rankings based total worldwide farmland and timberland assets under management for the 12 months ending 30 Jun 2022 as reported by each responding asset manager. 5 AUM is reflective of Fair Market Value as of 31 Dec 2022.

Midwest Agricultural Conference 2023

#1 farmland manager globally
## Risk/return balance: diversification across four key factors

### Geography

<table>
<thead>
<tr>
<th>EM &amp; G10</th>
<th>Ideal risk/return balance (G10 provides liquidity, EM provides capex ROI and higher rates of appreciation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S &amp; N hemispheres</td>
<td>Exposure to hemisphere crop cycles capitalizes on year-round supply</td>
</tr>
<tr>
<td>Intra-country</td>
<td>Diversified tenant/operator market, mitigates weather and climate risk</td>
</tr>
</tbody>
</table>

### Water profile

<table>
<thead>
<tr>
<th>Dryland &amp; irrigated</th>
<th>Balanced exposure offers comparative advantages of different growing regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground water</td>
<td>Mitigation of drought risk and upside potential from water monetization opportunities</td>
</tr>
<tr>
<td>Surface water</td>
<td>Reliable source of surface water identified via rigorous underwriting and in-house water experts</td>
</tr>
</tbody>
</table>

### Operating strategy

| Cash lease/cash flex                         | Consistent income with reduction to commodity price or production risk                                 |
| Share lease                                  | Flexibility manages risk in developing markets                                                      |
| Custom & direct farming                      | Supports potential attainment of superior risk-adjusted returns                                       |

### Crop type

<table>
<thead>
<tr>
<th>Row crops</th>
<th>Income stability and capital returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent crops</td>
<td>Higher average income returns but with greater volatility</td>
</tr>
<tr>
<td>Crop optionality</td>
<td>Enables growth of most profitable crops</td>
</tr>
</tbody>
</table>

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1 Solely reliant on rainfall.
# Geographic and commodity diversification

## Limited correlation between investment opportunities

<table>
<thead>
<tr>
<th></th>
<th>Illinois row crop - leased</th>
<th>Mississippi row crop - leased</th>
<th>Australia row crop - leased</th>
<th>Brazil row crop - leased</th>
<th>Poland row crop - leased</th>
<th>Romania row crop - leased</th>
<th>U.S. almonds - operated</th>
<th>U.S. pistachios - operated</th>
<th>U.S. wine grapes - operated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois row crop - leased</td>
<td>1.00</td>
<td>0.69</td>
<td>0.23</td>
<td>-0.11</td>
<td>0.67</td>
<td>0.58</td>
<td>0.26</td>
<td>-0.07</td>
<td>0.28</td>
</tr>
<tr>
<td>Mississippi row crop - leased</td>
<td>1.00</td>
<td>0.16</td>
<td>0.04</td>
<td>0.64</td>
<td>0.41</td>
<td>0.48</td>
<td>-0.00</td>
<td>0.31</td>
<td></td>
</tr>
<tr>
<td>Australia row crop - leased</td>
<td>1.00</td>
<td>0.35</td>
<td>0.32</td>
<td>0.26</td>
<td>0.51</td>
<td>0.22</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Brazil row crop - leased</td>
<td>1.00</td>
<td>0.14</td>
<td>0.06</td>
<td>0.26</td>
<td>0.23</td>
<td>0.33</td>
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</tr>
<tr>
<td>Poland row crop - leased</td>
<td>1.00</td>
<td>0.44</td>
<td>0.26</td>
<td>0.12</td>
<td>-0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Romania row crop - leased</td>
<td>1.00</td>
<td></td>
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Optimal farmland portfolios are diversified by country, crop and operating strategy

Indicative efficient frontier farmland portfolios

- Global viticulture
- Brazil row crops
- Global horticulture
- AU row crops
- U.S. row crops
- EU row crops

Source: Nuveen proprietary data.

Nuveen utilizes proprietary data and analysis to identify the optimal risk-adjusted portfolio that lies on the efficient frontier.
Natural capital investments reduce carbon intensity

Low carbon-intensity asset within a diversified portfolio.

Risk-return and carbon intensity

Carbon Intensity = tCO₂e/million USD

U.S. Farmland and Timberland estimates from Nuveen Natural Capital portfolios

MSCI ESG Manager
- Global and U.S. stock and bond indexes
- NAREIT
- MSCI Infrastructure index

Note: All carbon intensities with two exceptions include scope 1 and 2 emissions and exclude scope 3. For real estate and farmland, emissions include farm management and operating activities which are considered scope 1. Timberland removes are a representation of average annual change in forest carbon stocks for a portfolio that includes a mix of sustainable forestry and improved forest management strategies. Improved forest management strategies include significant new reforestation or sustainable forestry strategies feature alienation on stands and do not feature net removals. Removals for improved forest management strategies are calculated by comparing verified carbon credits of Nuveen-managed/monitored properties to an annual rate of change in forest carbon stocks. These rates of removals are not projected and may change over time as management goals and emissions are adjusted. Removals may not be exactly identical to those of the NAREIT Timberland Index, which includes primarily sustainable forestry strategies. The risk-return characteristics of the NAREIT Index and S&P Global Infrastructure Index from which carbon intensities are calculated may not exactly match those of the NUVEEN Real Estate or Cambridge Developed Markets Infrastructure Indexes. Additionally, Global intensity for U.S. and Global stock and bond are from MSCI ESG index. Carbon intensity for MSCI World Low Carbon Excess index is set at the index's target level. 50% of the MSCI World Index is carbon and then MIDCAP ESG Manager.
Thank you

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