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Why own private assets?

In this uncertain market environment, investors struggle to enhance returns and reduce risk. Private assets — those not traded on public exchanges, including debt, equity, real estate and real assets — may help achieve those goals. Investors should consider three important benefits as they evaluate allocating to private markets.

Stability

Private market pricing helps avoid public market noise

Inflation-linked private assets like real estate and farmland were one of the few refuges in the market upheaval of the last few years, and most private assets avoided the knee-jerk reactions of public markets.

Why the difference? Public markets tend to sell off more than fair value because they often rely on the wisdom of crowds and are subject to moments of panic. Private markets rely on the wisdom of experts to reflect economic conditions in their valuations.

Return and income potential

Characteristics offer opportunity

The illiquidity of private markets has been viewed as a limitation, but that same illiquidity also creates opportunities. The investment time horizon is generally longer for private markets, allowing for M&A activity and longer-term turnarounds. Majority or complete ownership in private companies helps better align interests because management is held more accountable. Similarly, private transactions generally offer far greater transparency to the buyer than what is available to public market investors.

A wider opportunity set is another important factor. There are more than 10 times the number of private companies as public ones,¹ and public REITs account for only 9.4% of the approximately \$20 trillion U.S. commercial real estate market.² Illiquidity has historically been a barrier to entry, with even large private market investors investing only a portion of assets in private markets. Investors therefore face less competition and may negotiate lower equity valuations and higher bond yields.

Resilience

Cash flows can increase along with inflation

Assets that have provided durable returns during both recessions and bouts of unexpected inflation may be attractive portfolio diversifiers. For example, private real estate and farmland provide cash flows that increase with inflation. At the same time, shelter and food are defensive businesses that serve basic needs in periods of economic contraction.

Conversely, long Treasuries and commodities tend to perform only in recessionary or inflationary periods, and neither one has offered compelling long-term returns.

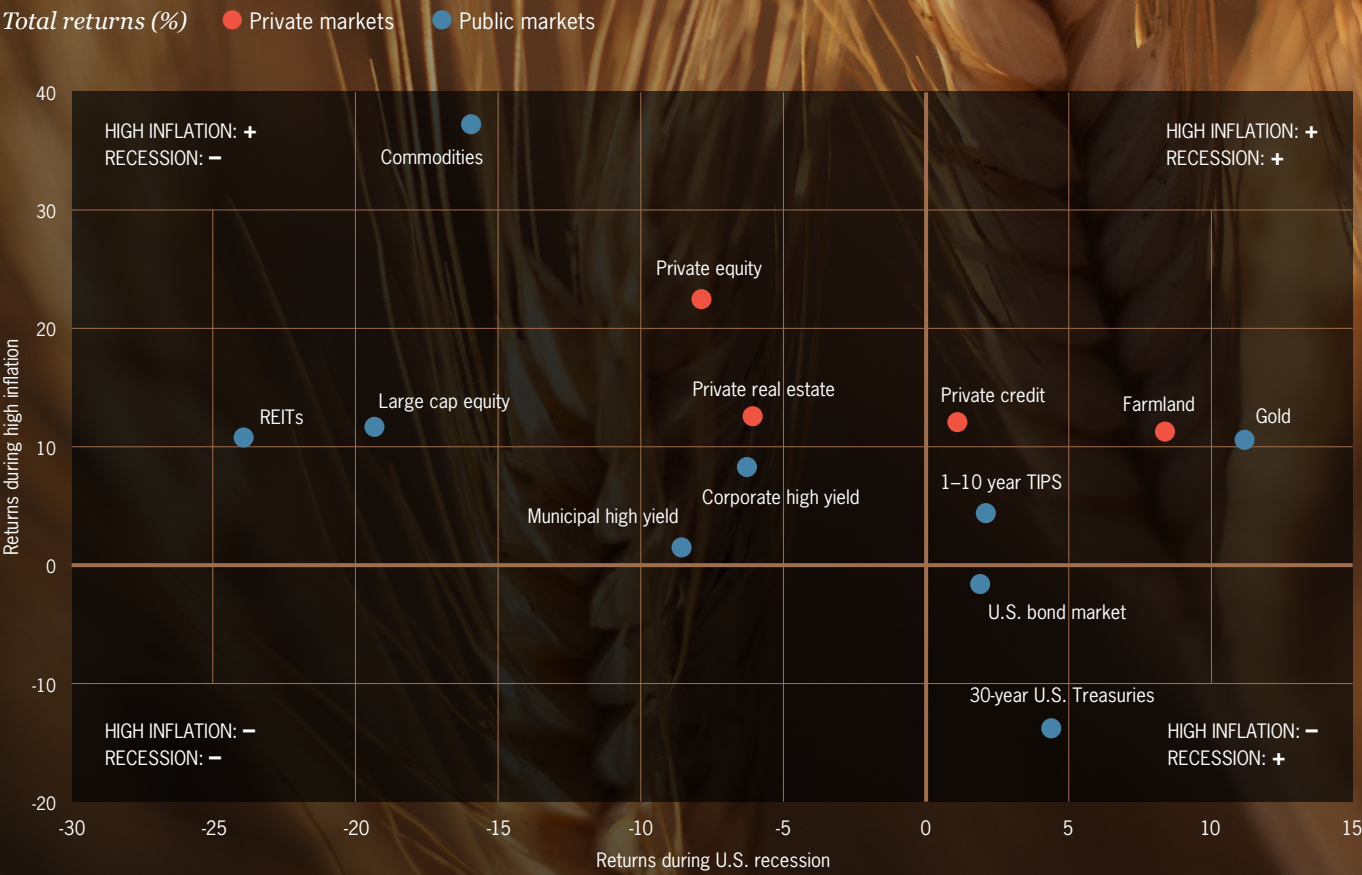
DOES YOUR ALLOCATION MEASURE UP?

Portfolio plans vary based on investor profiles and market conditions, but all plans begin with a strategic allocation. We believe portfolios benefit from allocating to a wide array of asset classes, including private market assets.

Strategic portfolio allocation

Asset class	Strategic allocation
U.S. large cap	24%
U.S. small cap	5%
Intl developed ex-US	10%
Emerging markets	5%
Global infrastructure	3%
Public REITs	3%
Total equity	50%
U.S. bond market	9%
High yield corporate bonds	3%
Preferred securities	3%
Senior loans	3%
Municipal bonds	9%
High yield municipal bonds	3%
Total fixed income	30%
Private real estate	5%
Private credit	8%
Private equity	7%
Total private markets	20%

PRIVATE REAL ASSETS HAVE PROVIDED A CUSHION FROM INFLATION AND RECESSION



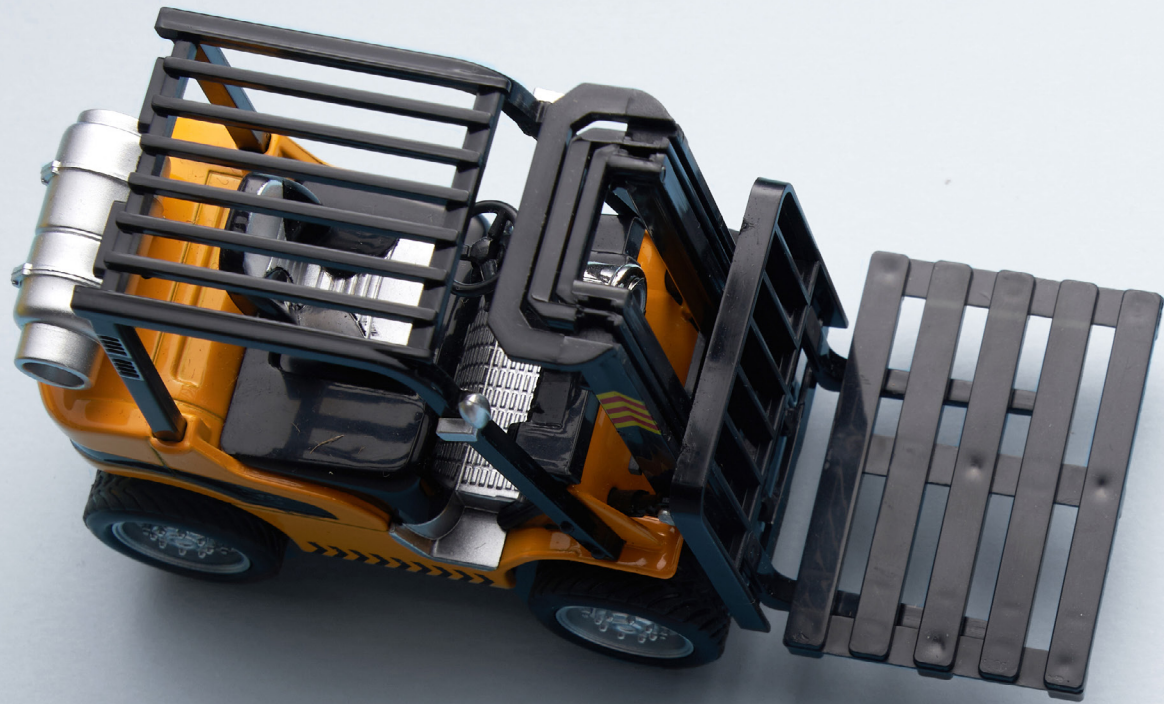
Data source: Bloomberg, L.P., Cambridge, Cliffwater, 31 Dec 2004 – 31 Dec 2022. Performance data shown represents past performance and does not predict or guarantee future results. Representative indexes: commodities: Bloomberg Commodity Total Return Index; corporate high yield: Bloomberg U.S. Corporate High Yield Total Return Index; farmland: NCREIF Farmland Index; gold: Bloomberg Gold Subindex Total Return; large cap equity: Russell 1000 Index; listed REITs: FTSE NAREIT All Equity REITS Total Return Index; municipal high yield: Bloomberg Municipal Bond High Yield Total Return Index Unhedged; senior loans: Credit Suisse Leveraged Loan Total Return Index; private credit: Cliffwater Direct Lending Index; private equity: Cambridge Private Equity Index; private real estate: NCREIF Fund Open End Diversified Core (ODCE) Index; U.S. bond market: Bloomberg U.S. Aggregate Total Return Index; 1-10 year U.S. TIPS: Bloomberg U.S. Treasury Inflation Notes 1-10 Yr. Total Return Index; 30-year U.S. Treasuries: Bloomberg U.S. Treasury Bellwethers 30-year Total Return Index. High inflation is defined as the calendar quarters in the top quartile of inflation as defined by the Consumer Price Index. U.S. recession is defined as the calendar quarters in which change in real GDP was negative.

Is the boom over for industrial properties?

The industrial real estate sector has experienced unprecedented demand over the past two years, but that pace is beginning to decline. E-Commerce and supply chain modernization are providing support against the resulting surging supply. Can the sector continue its run?

CHANGING DYNAMICS DRIVE FUTURE PERFORMANCE

Strong:	Slower:	Selective:	Size:
Long-running tailwinds from e-commerce and supply chain diversification should continue driving strong demand, and the slowdown in new starts suggests new supply will slow.	The combination of a weaker macroeconomy and accelerating near-term supply should translate to some sector weakening.	Differences in age, size and location may affect performance. Coastal markets and infill locations typically have high barriers to new supply and should continue experiencing relatively low vacancies. ³	Construction has been concentrated in larger buildings, while newer light industrial spaces should continue to experience low vacancies and solid demand.



Demand slows, but remains strong

Net new demand totaled more than 500 million square feet (MSF) in 2021, followed by more than 400 MSF in 2022.⁴ This trend pushed vacancy rates below 4% for the first time and spurred double-digit rent growth. Industrial transactions in capital markets surged, and nearly one billion square feet of new industrial space came under construction across all U.S. markets.

Demand for new industrial space remains healthy by historical standards, but the pace has declined in recent quarters as U.S. economic growth has slowed.⁴ This trend may continue as long as the economy flirts with recession into 2024.⁵

E-Commerce provides a tailwind

E-Commerce and supply chain modernization will likely support positive net new demand. Packaging and shipping individual orders to doorsteps requires more warehouse space than shipping pallets to a store, resulting in 2-3x more industrial space required per dollar spent to support e-commerce compared to brick-and-mortar retail.⁶

This rising e-commerce penetration rate could help offset a slowdown in consumer demand in a slowing economy, but the pace of demand growth is still likely to be slower than in 2021 and 2022.

Supply is surging, but new starts are easing

A large number of construction projects have been delivered in 2023 amid tapering demand, resulting in moderately higher vacancy levels versus historic lows. Nevertheless, the national vacancy rate of 4.3% in the first quarter remains below the sector’s long-term average and less than pre-pandemic levels.⁶

New construction starts have pulled back dramatically, with starts in Q1 2023 just half of the peak starts in Q3 2022. Higher interest rates and tighter lending standards have increased the cost of commercial real estate development. Industrial projects typically take five quarters to complete, suggesting that the pace of new deliveries should continue to slow noticeably in 2024 and 2025.

Regional challenges emerge, along with opportunities

Industrial fundamentals will likely remain strong by historical standards, even if the sector softens from its recent record performance. Of the top 80 largest industrial markets, only San Francisco has a vacancy rate higher than its historical average.

Even if all speculative space under construction is delivered completely vacant, overall vacancy rates would only rise to 6.4%, still below the historical average of 7.2%. This is an encouraging sign, as overall rent growth seems to have exceeded historical norms in every period where vacancy fell below historical averages.

Some markets and locations will be less affected by record oncoming supply. Coastal markets typically have less land available for development and have far less under construction, particularly in Mid-Atlantic and Northeast markets like Baltimore and Northern New Jersey. Even markets experiencing a wave of new supply have infill locations and submarkets with less competing supply under construction, meaning they should experience low vacancies and high rent in the near and long-term.

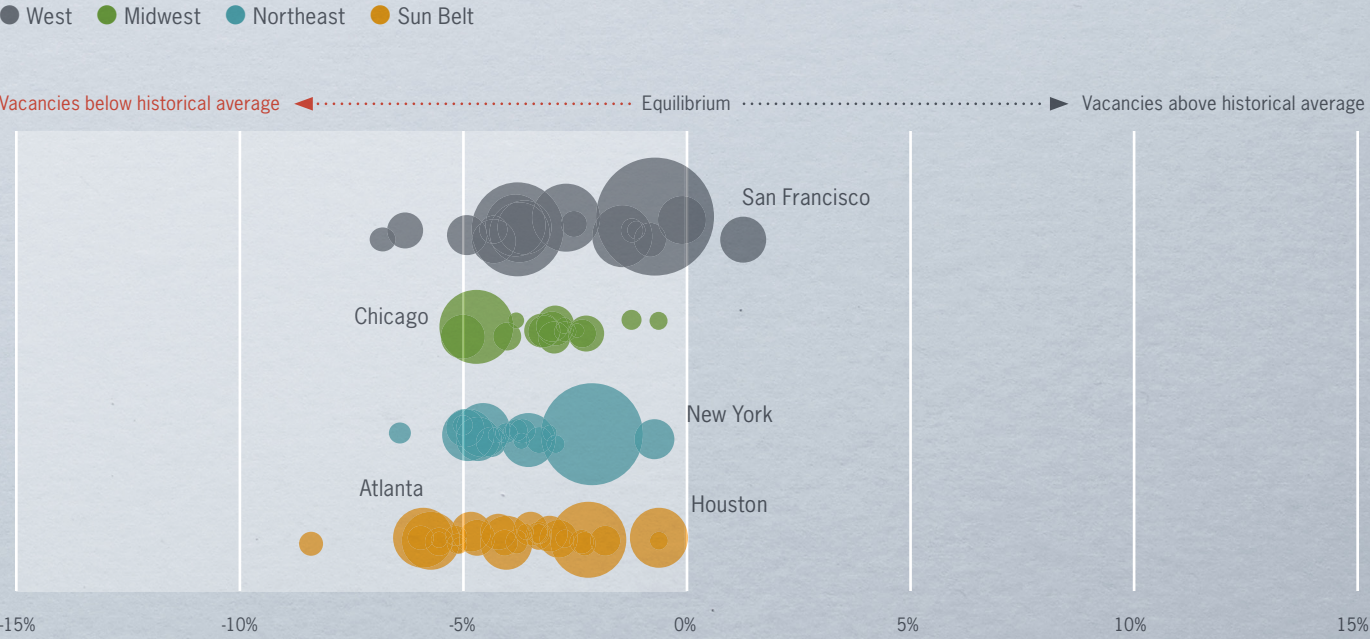
Bigger isn’t always better

With demand easing at the end of 2022, the completion rate (new deliveries as a percent of inventory) is greater than the absorption rate (new demand as a percent of inventory) for buildings larger than 500k sq. ft.⁶ Because the supply pipeline is also larger in this size cohort, vacancy is likely to rise despite higher demand for larger spaces.

By contrast, the completion rate for spaces less than 250k sq. ft. has slowed recently and continues to fall short of demand.⁵ The supply pipeline is far smaller, particularly in buildings less than 75k sq. ft. where less than 1% of the current stock is under construction.⁵

VACANCY RATES REMAIN HISTORICALLY LOW

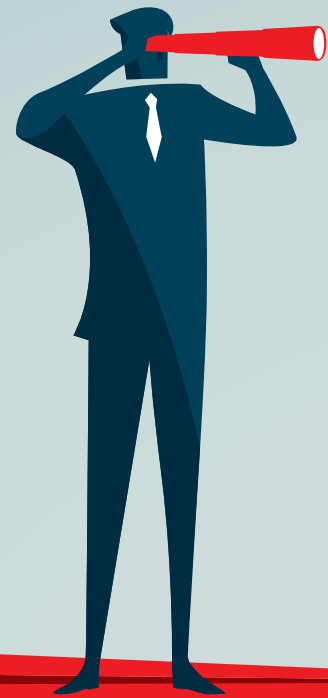
Current vacancies relative to pre-pandemic average (%)



Data source: Costar, 31 Mar 2023. Pre-pandemic average vacancy is calculated from 2000 to 2019 where data allow. Bubble size represents the market’s relative industrial asset value.

Private capital

The quest for quality



Investors are increasingly turning to private capital for stability in the face of public market volatility, recession fears and banking sector turmoil. Private capital not only provides attractive income and return potential, but also serves as a portfolio diversifier, generally with lower mark-to-market volatility than public markets. However, it is critical to align with experienced managers that remain vigilant, selective and diversified.

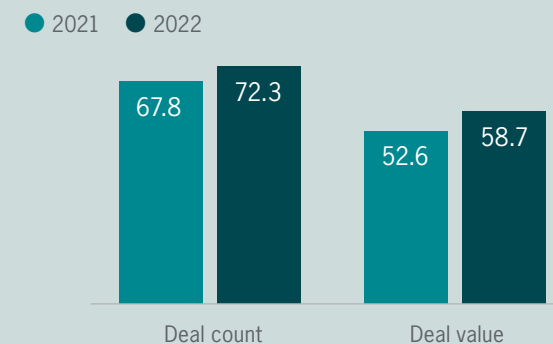
Top reasons we make deals

Companies within our portfolio are expanding

In volatile markets, the healthiest companies often seek to grow through M&A. Private capital managers with large portfolios and flexible mandates may be well-positioned to benefit. For example, at Nuveen's private credit specialist, Churchill Asset Management, through Q1 2023, financing add-ons within the existing portfolio represented 60% of senior lending volume and 20% of the capital deployed by its equity co-investment strategy. Add-on transactions represented more than 70% of all U.S. middle market private equity deal count in 2022, and we expect those tailwinds to continue.⁷

TAILWINDS FOR ADD-ON ACTIVITY SHOULD CONTINUE

Add-ons of U.S. middle market private equity activity (%)



Data source: Pitchbook 2022 Annual U.S. PE Middle Market Report.

We capitalize on top-tier sponsor relationships

In today's environment, top-tier private equity firms with strong investment teams; proven value creation strategies; and differentiated networks of partners and executives have the ability to perform regardless of broader economic conditions. Further, working with top-tier sponsors can give investors a wide perspective on deal flow, driving increased selectivity. The ability to identify and access private equity firms with which to partner is predicated upon years of relationship building, cemented by scale and a longstanding market presence.

We seek opportunities that are less cycle sensitive

What does it mean to be non-cyclical in today's world? Nuveen's private capital team seeks to identify businesses whose products and services are 1) non-discretionary, 2) purchased on a recurring basis and 3) comprise a small percentage of customers' overall cost structure but command a high cost of failure. In our experience, companies that demonstrate these three factors are most likely to reduce downside risk in a variety of market conditions.

Top reasons we turn down deals

Companies lack sustained free cash flow

Companies are now subject to greater cash outflows due to higher interest rate burdens. Like-for-like leverage has declined for companies seeking to adequately cover their increased all-in borrowing costs. Sustainable earnings will play an even greater role than interest rates in influencing a company's ability to service debt. Lastly, we are scrutinizing aggressive capex plans to see how quickly capex spend converts to revenue, as well as a company's ability to shut off expenditures in a downside scenario.

Equity alignment is insufficient

Greater equity alignment between private equity sponsors and management teams typically provides lenders and co-investors comfort that sponsor partner support will continue through business-specific or macroeconomic headwinds. We have even found that a greater equity contribution (from sponsors and management) at deal origination directly correlates to the level of support provided in times of distress. Additionally, a cash equity investment provides a true market valuation and loan-to-value for a particular asset, as opposed to calculating an implied enterprise value.

ESG elements are not suitably incorporated

The influx of capital into the asset class has enabled constituents to apply an Environmental, Social and Governance (ESG) lens to high-risk business models, as well as identifying businesses that can make positive societal changes. Our ESG due diligence framework is an important tool to help find businesses on the front foot of the ESG spectrum, supplemented by private equity partners seeking innovation to encourage more sustainable practices, that are better positioned to navigate a changing market landscape.

Self-storage: It's not like other sectors

Storage is unlike most other real estate sectors in that it thrives on change rather than economic growth. Its demand drivers rely on demographics and life transitions, uniquely positioning the self-storage sector to outperform throughout multiple real estate cycles.

The sector offers a desirable property type

A self-storage property rents individual units that occupy a 10x10 space (100 sq. ft.) for about \$130, on average.⁸ Rents vary significantly depending on unit size, facility conditions, climate controls and location.

The sector takes advantage of its inherent non-cyclical demand drivers, low cap-ex burden and low risk of obsolescence. The percentage of U.S. households using storage has grown from 9% in 2005 to 11% in 2022. Since the pandemic, the total number of renter households has grown by nearly one million to reach 14.5 million, and durations of stays have remained 10% longer.³

Self-storage has a sticky tenant base

Consumers experiencing major life events drive demand, and renters typically renew leases at least once. Households constitute 79% of renters, with the remainder made up of commercial users such as retailers needing extra inventory space or gig workers storing equipment.⁹

In the early 2010s, it was thought that millennials would be less keen on using self-storage due to shifting preferences toward owning fewer physical goods. However, millennials now make up 34% of the consumer base, even more than baby boomers.⁹

The sector's income profile is relatively resilient

Month-to-month leasing allows sophisticated management groups to raise rents more frequently, providing a hedge against inflation and creating strong rent growth. The cost of maintaining a real estate asset is a major drag on returns, but these costs for storage are among the lowest of any real estate sector.

Self-storage units have more inelastic demand relative to other real estate sectors, since they are a small dollar cost necessity during life events. Given the sector's inherent non-cyclical demand drivers, self-storage is considered a defensive property type and has ultimately outperformed traditional sectors over multiple real estate cycles.

SELF-STORAGE HAS OUTPERFORMED OVERALL REAL ESTATE

Self-storage annualized total returns (%)



Data source: NCREIF, 31 Mar 2023. Performance data shown represents past performance and does not predict or guarantee future results.



Farmland

Investing to feed a growing population

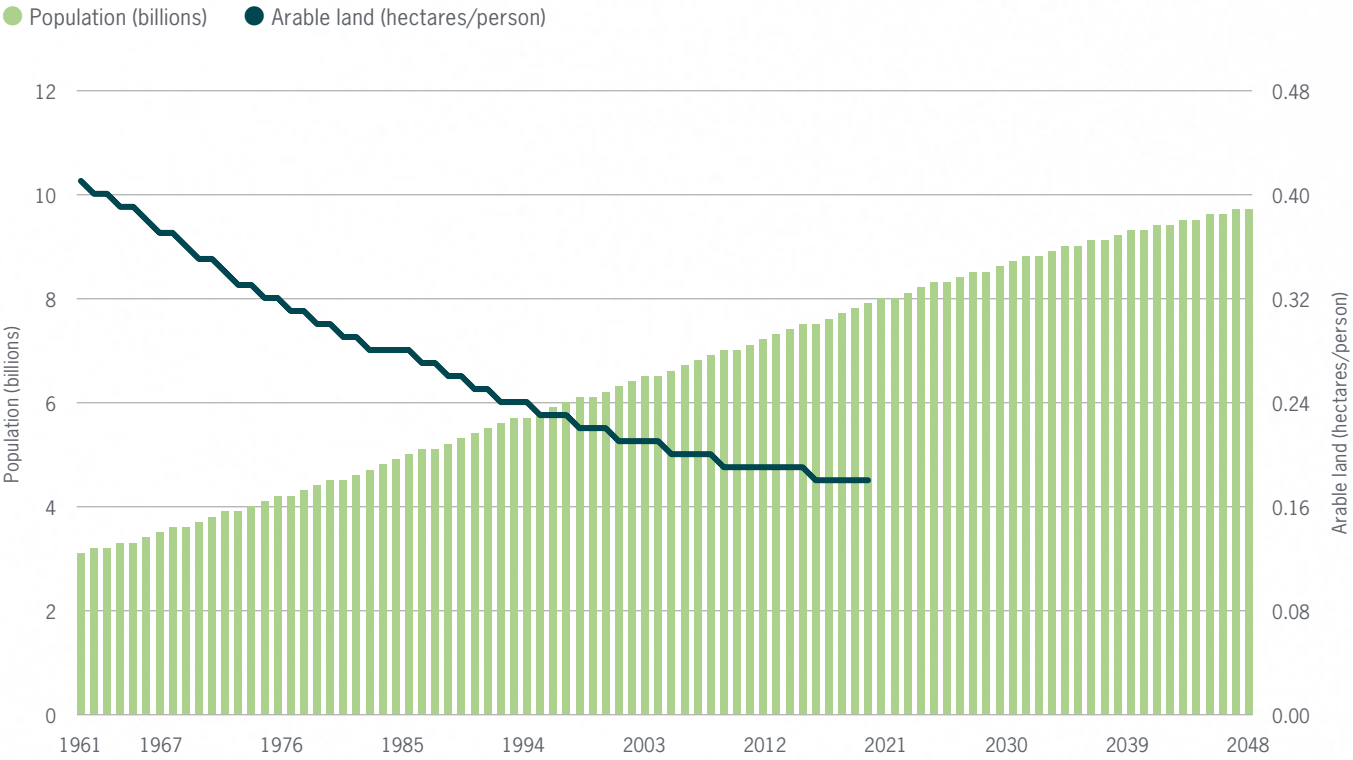
Investing in sustainable farmland is a fundamental way to benefit from the growing worldwide demand for resources while supporting environmentally friendly and socially responsible food production systems. We believe that considering nature, climate and people in our decision making may enhance investment performance, environmental outcomes and social benefits.



nuveen
*is the #1
investor in
farmland
worldwide.¹⁰*

POPULATION GROWTH AND LAND AVAILABILITY DRIVE FARMLAND VALUE

Projected population growth and loss of arable land



Data sources: United Nations World Population Forecast and Food and Agriculture Organization of the United Nations (FAOSTAT). As of August 2023, data was available to 2021.

Technology is needed to drive productivity

With the world’s population expanding by more than 67 million people per year, agricultural production will need to support more than 9.7 billion people by 2050.¹¹ That means agricultural producers must double their output from 2010 levels with a limited land base.¹² Investment in technology to drive more production is playing a critical role.

Why invest in farmland?

Investments in sustainably managed farmland may offer attractive financial returns while contributing to the health and development of the industry.

Portfolio diversification

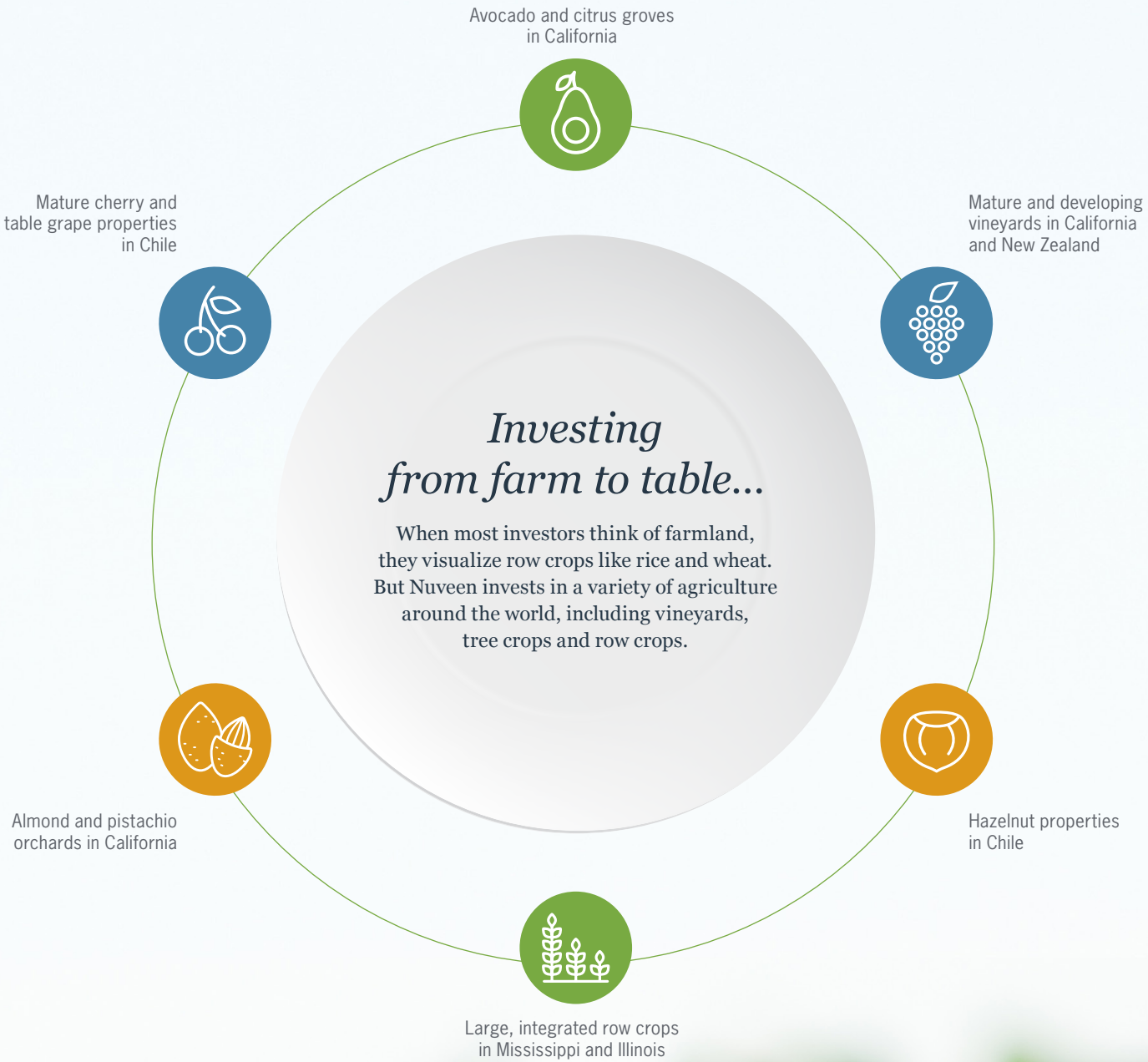
Real assets have been powerful diversifiers, with low or negative correlations to traditional stocks and bonds — and to each other — over the last few decades. And farmland investments have shown substantially less annual volatility relative to traditional asset classes.

Beyond market diversification, allocations to low carbon, land-based asset classes may reduce the overall carbon intensity of a traditional portfolio. This provides a hedge against more carbon intensive allocations and reduces potential volatility in the low-carbon transition.

Inflation hedge

Real assets like farmland have provided long-term returns far outpacing the inflation rate. Rising inflation in part reflects increasing food prices and an ability to pay more for crops. In the near term, these higher prices may improve performance by increasing farm cash yields. Longer term, higher prices may also increase the capital appreciation component of return as they are incorporated into asset valuations. Together, both return components reinforce the positive correlation between inflation and farmland performance.

Additionally, we expect carbon-efficient production systems will benefit from growing demand and improved pricing. The low-carbon transition will increase demand for certified sustainable, carbon-efficient food, in turn supporting pricing for these products.



Get a bird's-eye view of the locations and types of crops being grown on each of our farmland investments around the world. nuveen.com/farmlandmapsep2023



Asia Pacific’s coastal gem

Our global research team analyzed more than 4,000 cities and identified the top 2% we believe are most attractive to people and businesses, today and in the future. Sydney is one of those cities.

Global investors frequently diversify across regions, countries and markets. We believe selecting cities considered resilient and sustainable — both economically and environmentally — can help deliver attractive risk-adjusted returns. Sydney is Australia’s iconic face to the world and the nerve center of the country’s commercial and financial activities. The city’s 2030 strategy sets the vision for a green, global and connected Sydney.

Thriving population

5.1m

Australia’s largest city and the state capital of New South Wales.¹³

Economic strength

25%

Percentage of Australia’s economic activity generated in Sydney, including services, manufacturing, mining, finance, property and retail.¹⁴

Leading financial center

65%

Percentage of the country’s banks, financial services, insurance fund management and stockbroking firms — as well as one-third of the sector’s employees — located in Sydney.¹⁵

Multicultural

32%

Percent of Sydney’s population born overseas, versus 22% for Australia overall. More than half of its residents are first- or second-generation immigrants.¹⁶

Quality of life

Top 10

Rank among the most livable cities worldwide, annually.¹⁷

Sydney



For more information, please visit nuveen.com.

- ¹ Data source: listed: World Federation of Exchanges (WFE); unlisted: U.S. Census Bureau.
- ² Estimating the size of the Commercial Real Estate Market in the U.S., NAREIT, 30 Jun 2022. Most recent data available.
- ³ Green Street, 2023.
- ⁴ Costar, 2023.
- ⁵ Moody's Analytics, 2023.
- ⁶ Prologis Global Insights, 2020.
- ⁷ Pitchbook 2022 Annual U.S. PE Middle Market Report.
- ⁸ Yardi Matrix, March 2023.
- ⁹ Self-Storage Almanac, 2022.
- ¹⁰ Pensions & Investments, 03 Oct 2022. Rankings based total worldwide farmland assets under management for the 12 months ending 30 Jun 2022 as reported by each responding asset manager.
- ¹¹ United Nations World Population Forecast, August 2023.
- ¹² The Global Harvest Initiative 2019 GAP Report.
- ¹³ World Population Review.
- ¹⁴ Oxford Economics
- ¹⁵ Australian Banking Association
- ¹⁶ Australian Bureau of Statistics
- ¹⁷ The Economist, annual quality of life index.

Endnotes

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on an investor's objectives and circumstances and in consultation with his or her financial professionals.

The views and opinions expressed are for informational and educational purposes only as of the date of production/writing and may change without notice at any time based on numerous factors, such as market or other conditions, legal and regulatory developments, additional risks and uncertainties and may not come to pass. This material may contain "forward-looking" information that is not purely historical in nature.

Such information may include, among other things, projections, forecasts, estimates of market returns, and proposed or expected portfolio composition. Any changes to assumptions that may have been made in preparing this material could have a material impact on the information presented herein by way of example. **Performance data shown represents past performance and does not predict or guarantee future results.** Investing involves risk; principal loss is possible.

All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such. For term definitions and index descriptions, please access the glossary on nuveen.com. **Please note, it is not possible to invest directly in an index.**

Important information on risk

All investments carry a certain degree of risk and there is no assurance that an investment will provide positive performance over any period of time. Equity investing involves risk. Investments are also subject to political, currency and regulatory risks. Diversification is a technique to help reduce risk. There is no guarantee that diversification will protect against a loss of income. Debt or fixed income securities are subject to market risk, credit risk, interest rate risk, call risk, derivatives risk, dollar roll transaction risk, and income risk. As interest rates rise, bond prices fall. Foreign investments involve additional risks, including currency fluctuation, political and economic instability, lack of liquidity, and differing legal and accounting standards. These risks are magnified in emerging markets.

As an asset class, real assets are less developed, more illiquid, and less transparent compared to traditional asset classes. Investments will be subject to risks generally associated with the ownership of real estate-related assets and foreign investing, including changes in economic conditions, currency values, environmental risks, the cost of and ability to obtain insurance, and risks related to leasing of properties. Real estate investments are subject to various risks, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability. Please consider all risks carefully prior to investing in any particular strategy. A portfolio's concentration in the real estate sector makes it subject to greater risk and volatility than other portfolios that are more diversified and its value may be substantially affected by economic events in the real estate industry. International investing involves risks, including risks related to foreign currency, limited liquidity particularly where the underlying asset comprises real estate, less government regulation in some jurisdictions, and the possibility of substantial volatility due to adverse political, economic or other developments. 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.

Investors should be aware that alternative investments including private equity and private debt are speculative, subject to substantial risks including the risks associated with limited liquidity, the use of leverage, short sales and concentrated investments and may involve complex tax structures and investment strategies. Alternative investments may be illiquid, there may be no liquid secondary market or ready purchasers for such securities, they may not be required to provide periodic pricing or valuation information to investors, there may be delays in distributing tax information to investors, they are not subject to the same regulatory requirements as other types of pooled investment vehicles, and they may be subject to high fees and expenses, which will reduce profits. Alternative investments are not appropriate for all investors and should not constitute an entire investment program. Investors may lose all or substantially all of the capital invested. The historical returns achieved by alternative asset vehicles is not a prediction of future performance or a guarantee of future results, and there can be no assurance that comparable returns will be achieved by any strategy.

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. ESG integration incorporates financially relevant ESG factors into investment research in support of portfolio management for actively managed strategies. Financial relevancy of ESG factors varies by asset class and investment strategy. Applicability of ESG factors may differ across investment strategies. ESG factors are among many factors considered in evaluating an investment decision, and unless otherwise stated in the relevant offering memorandum or prospectus, do not alter the investment guidelines, strategy or objectives.

Nuveen, LLC provides investment services through its investment specialists.

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