PGIM

REAL ESTATE INVESTMENT RESEARCH

DIVERSIFYING ACROSS MARKETS

The Case for International Diversification for U.S. Investors

Executive Summary

The United States is an outperformer in today's global real estate market, but a combination of heightened market risks and portfolio-level factors point to benefits for U.S.-based investors from adopting a more diversified approach.

Focusing on equity, we identify three key benefits arising from the addition of an international allocation to domestic real estate exposure:

- **Diversification:** International allocations offer a potential route to reduced concentration risk and an opportunity to efficiently target superior risk-return outcomes.
- **Targeted strategies:** Investors can look beyond the United States to build exposure to attractive global themes that have less prominence in the domestic market, such as office and hospitality.
- **Capture risk premium:** Deploying capital in sectors that are not yet fully institutional in international markets, seeking to earn outsized returns, such as self storage and senior living.

Exhibit 1: The Simplest Case for Diversification? Returns Vary a Lot Over Time

Ranking of Annual MSCI Sector-Region Returns Over Time (% p.a.)

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
17%	22%	23%	17%	17%	2%	3%	18%	16%	11%	13%	15%
15%	18%	22%	17%	16%	2%	2%	14%	15%	11%	13%	13%
13%	16%	20%	16%	12%	2%	1%	13%	13%	11%	10%	12%
12%	16%	19%	16%	12%	0%	0%	10%	13%	10%	10%	12%
10%	14%	18%	15%	11%	-2%	0%	10%	10%	9%	10%	11%
9%	13%	18%	14%	11%	-5%	-1%	10%	7%	7%	9%	10%
9%	12%	15%	14%	10%	-6%	-4%	8%	7%	6%	8%	10%
9%	11%	15%	13%	8%	-6%	-4%	7%	7%	6%	8%	9%
8%	11%	15%	13%	8%	-8%	-13%	7%	7%	5%	6%	8%
7%	11%	14%	13%	7%	-8%	-17%	6%	6%	4%	6%	8%
7%	8%	10%	13%	5%	-9%	-19%	5%	6%	4%	5%	7%
4%	7%	10%	11%	4%	-10%	-21%	4%	5%	3%	5%	6%

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
14%	12%	15%	15%	12%	11%	40%	15%	4%	6%	10%
14%	8%	12%	13%	11%	10%	27%	8%	3%	5%	7%
12%	8%	10%	9%	9%	8%	17%	7%	2%	5%	6%
12%	8%	10%	9%	9%	6%	11%	7%	2%	4%	6%
11%	8%	9%	8%	8%	5%	11%	5%	1%	4%	6%
10%	8%	8%	8%	8%	4%	8%	4%	0%	3%	6%
10%	7%	8%	8%	6%	2%	7%	4%	-1%	3%	6%
10%	7%	7%	7%	6%	2%	6%	3%	-2%	3%	6%
9%	7%	7%	6%	5%	1%	6%	2%	-3%	2%	5%
9%	7%	6%	6%	4%	-1%	6%	1%	-6%	1%	5%
8%	6%	6%	3%	0%	-5%	5%	-4%	-7%	1%	4%
7%	6%	5%	3%	0%	-8%	4%	-5%	-16%	-8%	1%

Key: U.S. Office | U.S. Retail | U.S. Industrial | U.S. Apartment | Europe Office | Europe Retail | Europe Industrial | Europe Apartment | Asia Pacific Office | Asia Pacific Retail | Asia Pacific Industrial | Asia Pacific Apartment

Sources: MSCI, PGIM. As of July 2026.

THE EXISTING LANDSCAPE FOR U.S.-BASED INVESTORS

01

When looking at the existing approach of U.S. investors to equity real estate allocations two things stand out: a preference for domestic allocation and a tilt toward higher-returning strategies for capital that is allocated to international strategies.

Domestic Allocation Preference

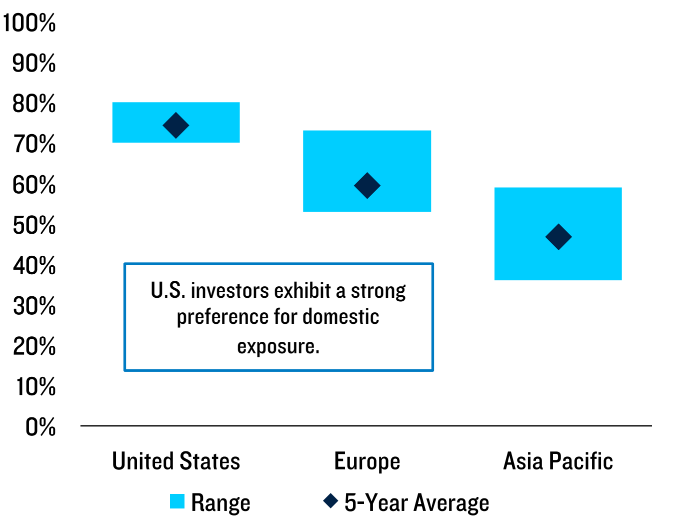
In the last five years, U.S.-based investors have typically targeted domestic real estate allocations of 70–80%, which is significantly above equivalent figures for investors based in Asia Pacific and Europe (Exhibit 2).

The share of domestic allocation has gone up over time, driven in particular by a period of U.S. economic and real estate market outperformance that reduced the appeal of adding exposure to other markets.

In the latter part of the last cycle, between 2015 and 2019, domestic target allocations averaged 66%—a full 10% below the 2026 outcome.

Exhibit 2: U.S. Investors Typically Favor Domestic Market Exposure

Expected Capital Deployment by Investor Domicile—Domestic Allocation, Last 5 Years (%)



Sources: INREV, ANREV, NCREIF, PGIM. As of July 2026.

Core vs. Non-Core

U.S. investors typically prefer targeting higher-returning strategies for their international allocations.

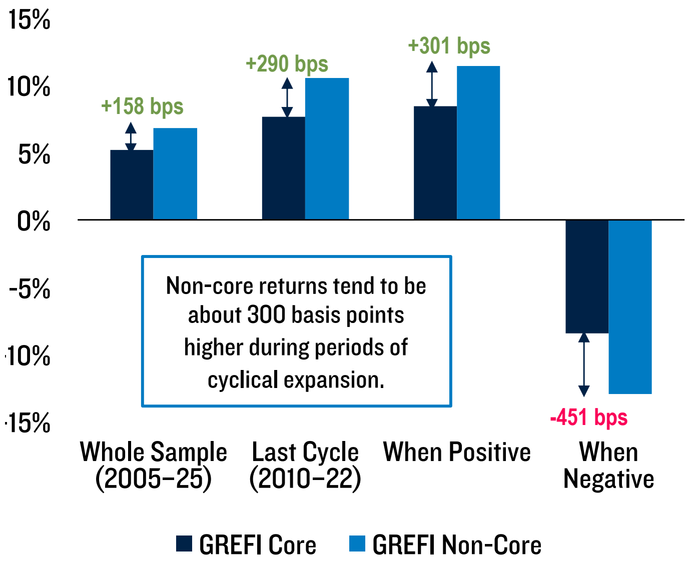
According to INREV's 2026 Global Investment Intentions Survey, 71% of capital invested by respondents domestically is in core real estate, compared to just 35% for allocations to Asia Pacific and Europe.

Given the U.S. is a relatively high-returning market and that international investing brings some additional costs —often including currency hedging—it makes sense to primarily target strategies that can offer relatively higher returns.

In periods of expansion, global non-core returns tend to track about 300 basis points above core, with outperformance over a whole cycle dampened a little by underperformance in periods of weaker market conditions (Exhibit 3).

Exhibit 3: Non-Core Real Estate Returns Are Higher Over Time, But More Volatile Too

Global Core and Non-Core Real Estate Returns (% p.a.)



Sources: INREV, ANREV, NCREIF, PGIM. As of July 2026.

SIZING UP THE BENEFITS OF DIVERSIFICATION: A MODELED APPROACH

To evaluate the potential benefits of international diversification, we use a simple portfolio allocation model framework based on historical data.

Given the observed preference of U.S.-based investors for higher-returning, non-core strategies in their international allocations, such approaches need to be formally included in the modeling process.

Model Setup

To run the model, we use core and estimated non-core quarterly prime/grade A total returns for the four major property types (office, retail, logistics and residential) across the three main investment regions (United States, Europe and Asia Pacific).

Non-core returns are estimated using the relationships between core and non-core in the GREFI Index and returns should be treated as indicative for simplified modeling processes.

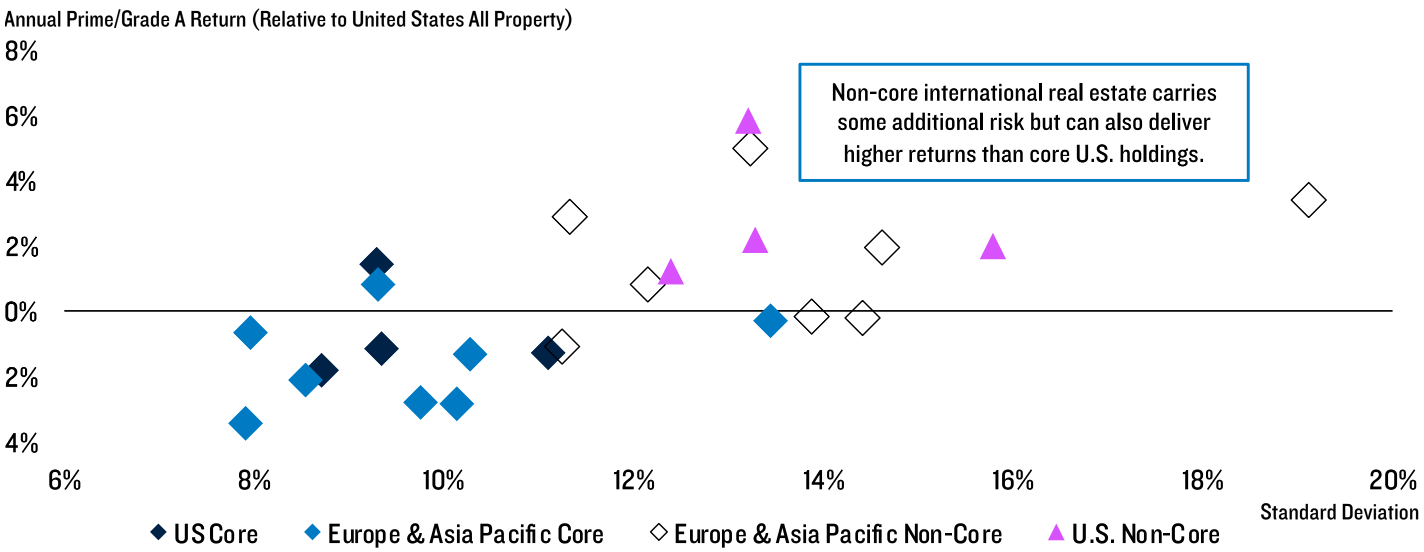
One clear takeaway from the risk-return plot in Exhibit 4 is that while U.S. core is a relative outperformer in a global context, other international core markets can offer lower volatility options, while international non-core returns are generally higher than U.S. core.

The model process to evaluate these benefits is broadly as follows:

- Modeling is based on prime/grade A returns covering a period from 2002 to 2025.
- For the U.S., domestic allocations are set to be 80% core and 20% non-core (broadly in line with style preferences over time as per the INREV survey).
- Efficient frontiers are then calculated for varying levels of international allocation.
- Simple Sharpe Ratio calculations are used to quantify the effects of improved total return and/or lower standard deviation at different levels of international allocation.

Exhibit 4: A Simple Risk-Return Framework Provides a Foundation For Portfolio Analysis

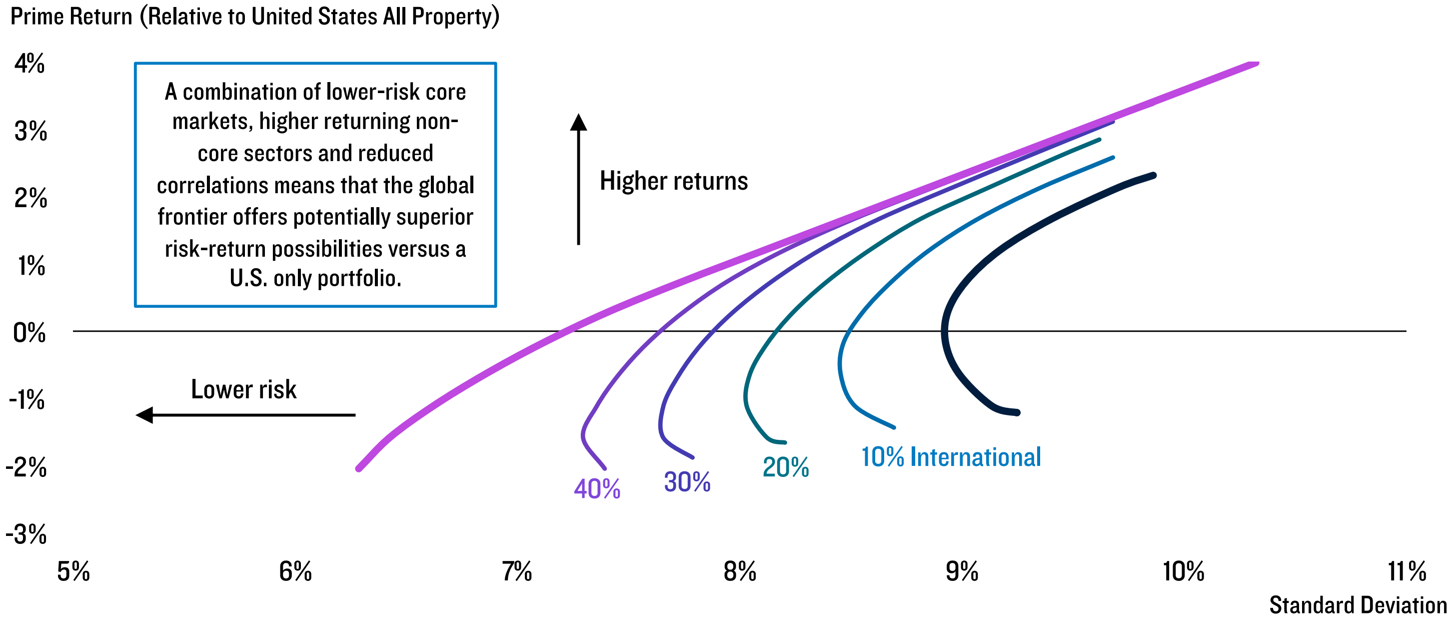
Risk-Return Plot: Global Sector-Region Prime/Grade A Returns (2002–25, % p.a.)



Sources: CoStar, Cushman & Wakefield, JLL, PMA, PGIM. As of July 2026.
Modeled results are hypothetical, based on historical data (2002-25) and assumptions, and shown for illustrative purposes only. They do not represent actual investment performance. Actual results may differ materially.

Exhibit 5: Efficient Frontier Plots Show Potential Benefits of Diversification

Efficient Frontier Plot, Prime/Grade A Returns (2002–25)



Source: PGIM. As of July 2026.
Modeled results are hypothetical, based on historical data (2002-25) and assumptions, and shown for illustrative purposes only. They do not represent actual investment performance. Actual results may differ materially.

Exhibit 5 sets out the modeled results clearly: There are potential benefits to U.S. investors from holding international real estate alongside a domestic core and non-core portfolio.

This plays out via several broad portfolio effects:

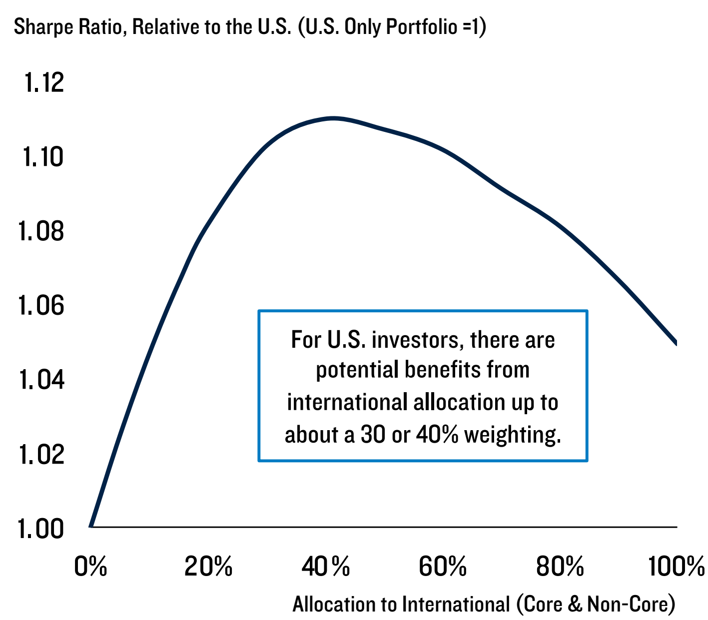
- Pure diversification benefits, including reducing valuations volatiliy in downturn periods, from adding markets with low correlations with the U.S.
- The potential to allocate to international markets that have different return characteristics, including
- Lower return, lower volatility markets e.g., European residential.
- Non-core strategies that offer higher return potential than U.S. core (which comprises 80% of the domestic allocation in the model).

One important note: the potential benefits from building up an international allocation are incrementally very strong up to about 20% but start to diminish after 30–40% (Exhibit 6).

Beyond this point the effect of losing exposure to home market performance starts to outweigh diversification benefits.

Exhibit 6: Potential Benefits From an International Allocation Diminish if Weighting is Too High

Maximum Sharpe Ratio at Varying Levels of International Exposure for a U.S. Investor (U.S. Only Portfolio = 1)



Source: PGIM. As of July 2026.
Modeled results are hypothetical, based on historical data (2002-25) and assumptions, and shown for illustrative purposes only. They do not represent actual investment performance. Actual results may differ materially.

To build a picture of portfolio allocations that underpin the efficient frontiers we use a simple bootstrap model that runs multiple re-samples of the data across different time periods, varying by start date and investment time horizon.

Results are shown in Exhibit 7. For a portfolio approach that seeks to replicate U.S. returns, a typical approach would be skewed toward Europe and comprise nearly 70% core.

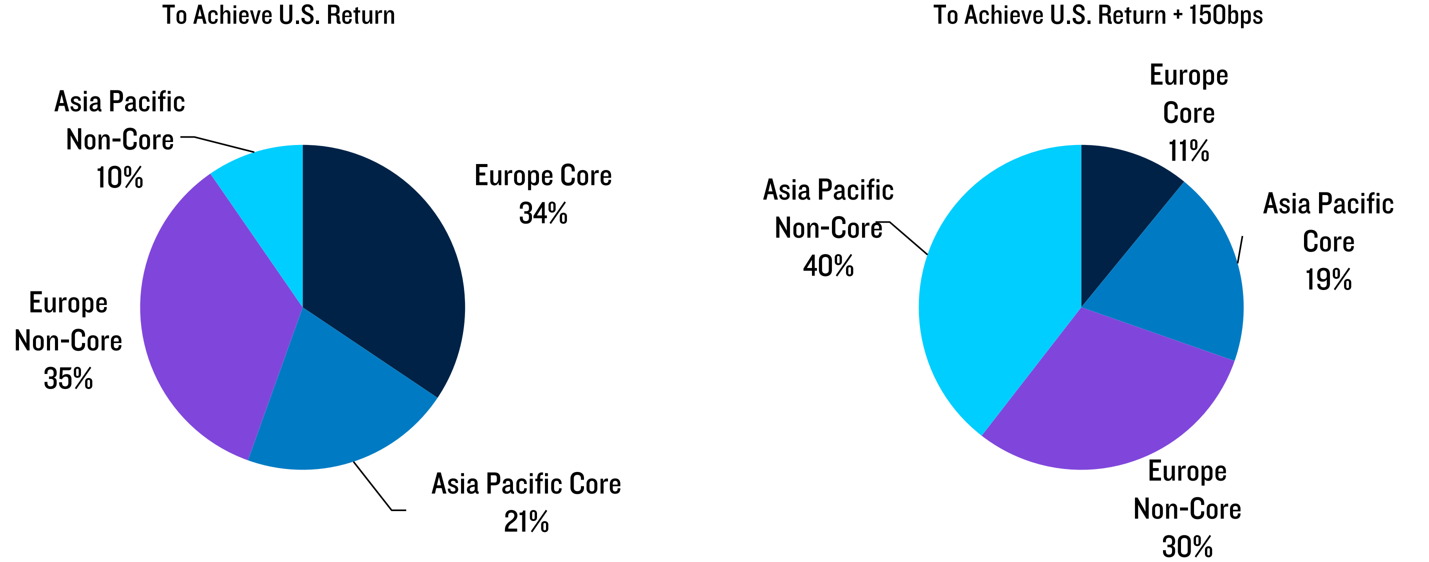
Such an approach would lead to an improved Sharpe Ratio via a reduction in observed standard deviation.

In practice, investors are often looking to beat domestic benchmarks with their international allocations.

An international portfolio to beat U.S. returns (weighted 80% core, 20% non-core) would tilt toward faster-growing Asian markets and be dominated by non-core strategies.

Exhibit 7: Returns-Enhancing Objectives Skew Toward Non-Core Strategies

Modeled International Core and Non-Core Allocation Weights (Based on an 80% U.S. Allocation)



Source: PGIM. As of July 2026.
Modeled results are hypothetical, based on historical data (2002-25) and assumptions, and shown for illustrative purposes only. They do not represent actual investment performance. Actual results may differ materially.

Core or No Core?

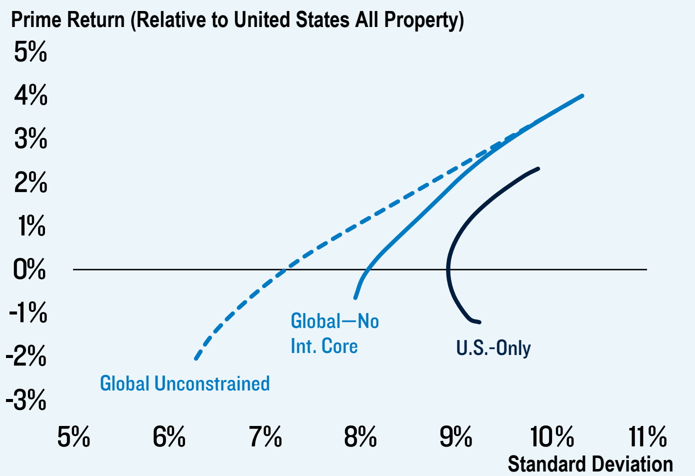
One key question is whether core has a role to play in an international portfolio for U.S. investors.

Clearly investors and allocators will be guided by their own investment criteria, principles and cost factors, but we can use the model results to make two observations (Exhibit 8):

i. Not including international core does constrain the efficient frontier quite significantly.

ii. However, this matters most for diversification strategies focused on risk reduction. For strategies focused on enhancing potential returns, outcomes are much less affected.

Exhibit 8: Efficient Frontier Plot, Prime/Grade A Returns (2002–25)



Source: PGIM. As of July 2026.
Modeled results are hypothetical, based on historical data (2002-25) and assumptions, and shown for illustrative purposes only. They do not represent actual investment performance. Actual results may differ materially.

INTERNATIONAL ALLOCATIONS: OTHER CONSIDERATIONS

03

An Efficient Approach

From a portfolio perspective, a simple analysis shows that holding balanced exposure to 10–15 of the world's largest real estate markets is sufficient to broadly replicate global index performance (Exhibit 9).

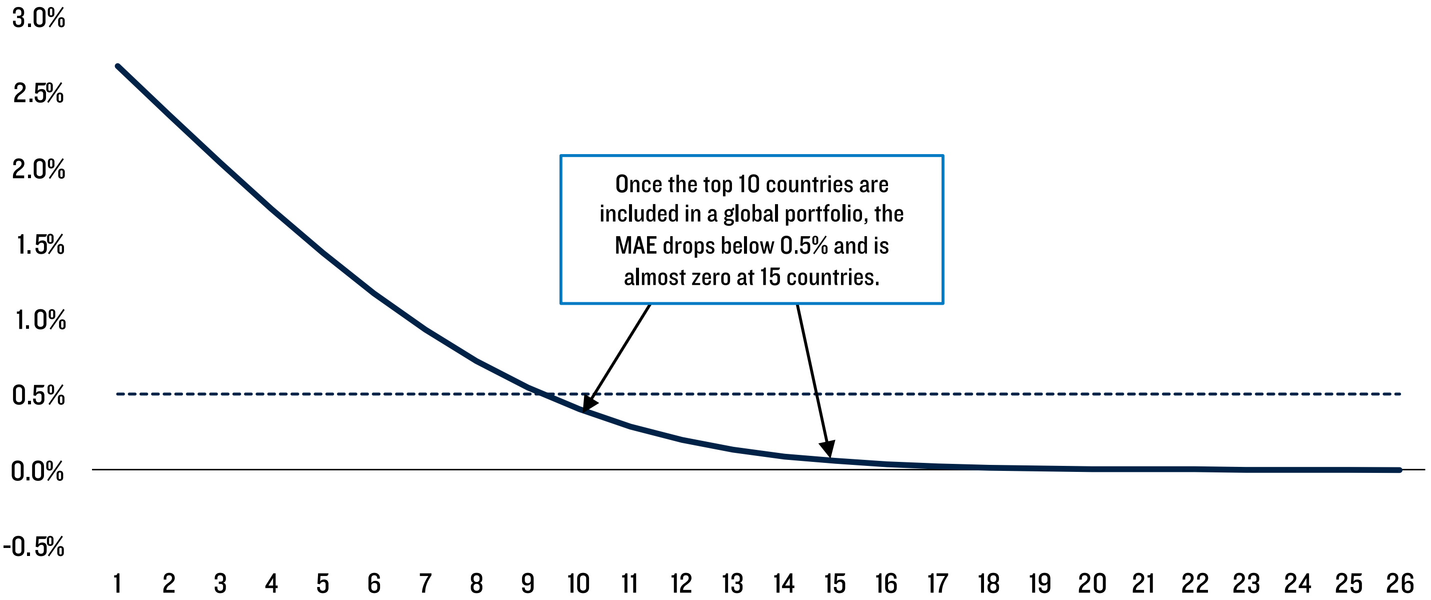
The key implication is that to get meaningful benefits from international diversification, U.S.-based investors can do so with an efficient, cost-effective, targeted allocation strategy that is concentrated on major markets.

For non-core strategies, deviations from global benchmarks will be larger, with more concentrated allocations to sectors and markets that are, for example, relatively fast-growing, offer relative value, or need capital injections. But the same principle holds, that exposure can be built efficiently.

> "To get meaningful benefits from international diversification, U.S.-based investors can do so with an efficient, cost-effective, targeted allocation strategy."
>
> **GREG KANE**
> Managing Director
> Head of European Real Estate Investment Research

Exhibit 9: Exposure to 10–15 Countries is Sufficient for Diversification Purposes

MSCI Global Index Returns: Mean Absolute Error For Different Numbers of Countries (%)



Sources: MSCI, PGIM. As of July 2026.

Targeted Strategies

Over time, international allocations offer the opportunity to deploy capital into strategies that link to attractive themes but where either performance characteristics differ, or where there isn't strong execution potential in local markets.

For U.S.-based investors today, examples include:

- **Low volatility residential:** European markets offer residential assets that have very low cashflow variability due to social structures, low supply and long tenure.
- **Office:** CBD markets in Asia Pacific and Europe have low vacancy rates and rising rents, as tenants compete for space in high density markets. This offers an opportunity to play the leasing recovery cycle in a way that is tougher in the U.S., where availability is higher and density lower in many (not all) markets (Exhibit 10).
- **Hospitality:** Markets in Asia Pacific and Europe benefit from rising tourism demand and low supply, while offering a lower risk profile than the U.S., partly linked to a more constrained supply picture in key tourism markets.

Capture Risk Premiums

Many international markets have less mature real estate investment markets than the U.S., bringing an additional potential route to targeting outsized returns.

Sectors such as senior living and self storage still represent attractive long-term investment opportunities in the U.S., but their maturity means that yield spreads have tightened.

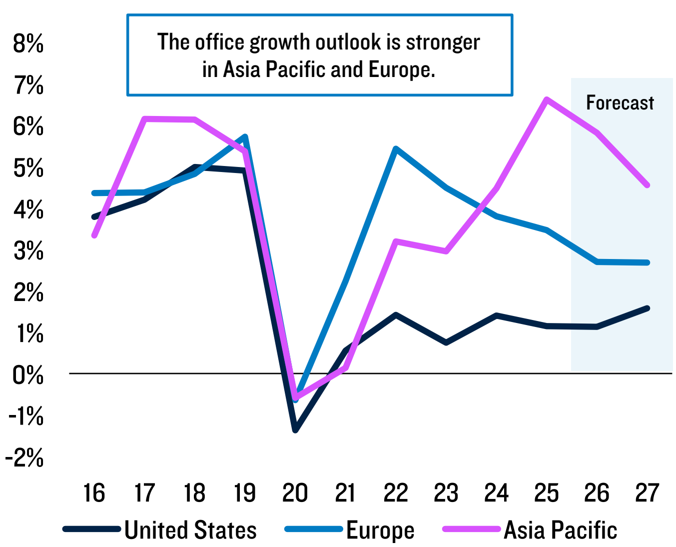
As such, there is an attractive opportunity to take U.S. business models, operating platforms and investment approaches into markets that have favorable underlying demand trends but still lack fully-developed institutional capital markets.

By developing, scaling and stabilizing cash flows in immature markets, investors can seek to earn a returns premium from development profits, outsized rental growth and yield compression as markets mature, much as happened through previous cycles in the U.S.

In Europe, self storage is an example of this opportunity, with provision now growing from a low base as demand expands but still well short of established levels in the U.S. (Exhibit 11).

Exhibit 10: International Exposure Allows a Broader Opportunity Set, Such as Office

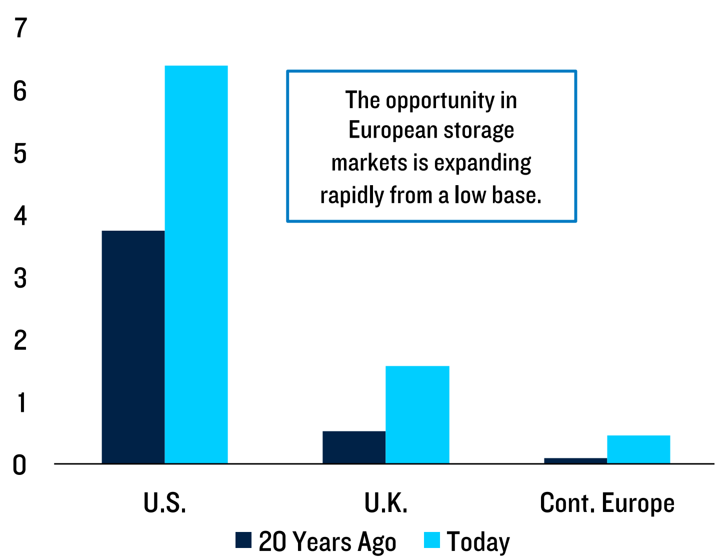
Annual Rental Growth, Major CBD Office Markets (%)



Sources: CoStar, JLL, PMA, PGIM. As of July 2026.

Exhibit 11: European Storage Markets Growing From a Low Base

Self Storage Supply per Capita (sq ft)



Sources: Green Street, PGIM. As of July 2026.

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