



REAL ASSETS FOR NEW REALITIES

Investing in a World of Constraints



September 2026

All investments involve risk, including
the possible loss of capital.

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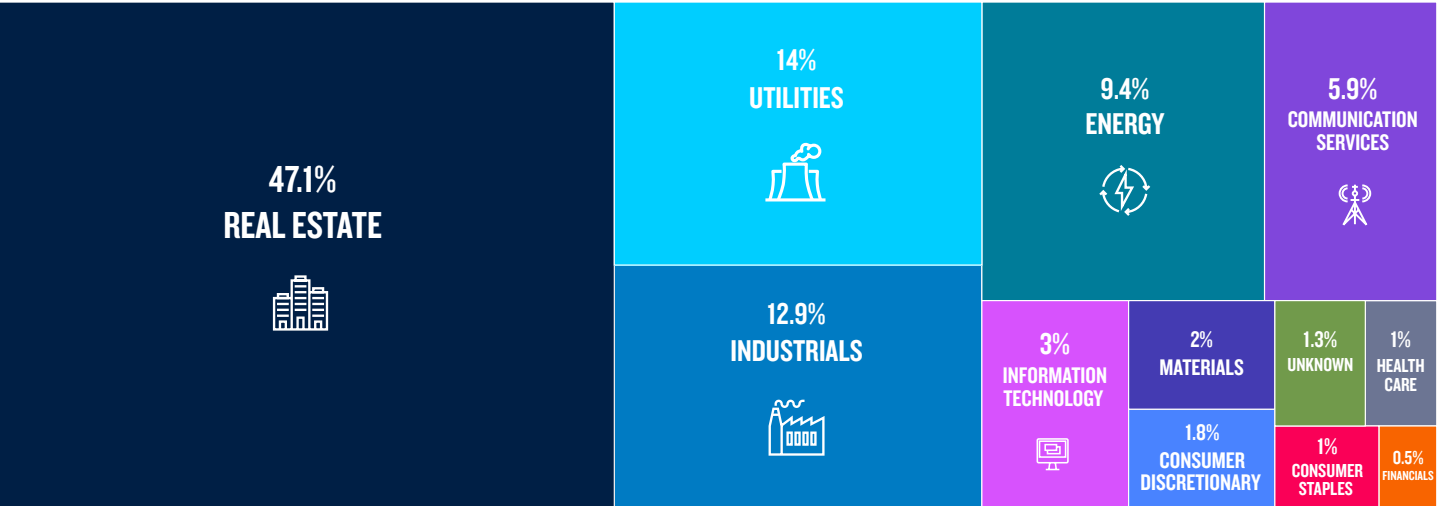
EXECUTIVE SUMMARY

Investors face a world of new realities where constraints on housing, power, infrastructure, critical commodities, and digital capacity will increasingly shape global growth. Real assets play a pivotal role in this environment by providing portfolio exposure to essential economic resources while offering growth potential, inflation protection, income generation, and diversification (Exhibit 1 shows the sector breakdown across the real asset universe).

- The emergence of several macro factors—including heightened trade frictions, more frequent economic shocks, renewed emphasis on industrial policy, and the global technological race—are tightening the constraints on the availability of real assets. Depending on the constraints’ effects, active allocations to the asset class can position portfolios for varying inflation, growth, and income objectives.
- Private real estate remains in an early-cycle phase, supporting our view for a favorable performance outlook and the tendency for rental income to keep pace with inflation over the long run. The effects of constraints are readily visible in certain regional markets.
- The expanding intersection between real assets and data centers underscores that further technological growth depends on the availability of physical assets. While AI-related constraints can create investment opportunities, they also introduce negative-sentiment risks that investors must navigate.
- Commodities and natural resources are closely tied to geopolitical developments, weather events, and supply scarcity. They have historically provided short-term inflation protection during periods of high inflation, but require active management across economic cycles.
- Increasing capacity requires multiple sources of significant capital investment. Financing solutions offer broad access to real asset themes, providing income, credit diversification, and attractive relative value opportunities.
- Portfolio construction benefits extend beyond diversification, and we demonstrate how real asset allocations can address inflation sensitivity, income durability, growth objectives, and capital structure flexibility.

Exhibit 1: Private real assets provide exposure to a broad set of economically essential sectors. In this report, we define investing in real assets as ownership of private real estate, private infrastructure, and commodities, consistent with the MSCI Real Asset classification.

Sector makeup of private real assets, percent of total



Source: MSCI Private Capital Solutions. As of December 31, 2025.

INVESTING IN A WORLD OF CONSTRAINTS

During the prior decades of “Great Moderation,” investors benefited from several structural anchors, such as expanding globalization, low and steady inflation, and abundant capital amid historically low interest rates.¹ These anchors are giving way to new realities consisting of trade frictions, more frequent macro shocks, supply chain insecurity, renewed emphasis on industrial policy, fiscal dominance, and a global race to the frontier of foundational technologies.

These new realities are tightening the near- and long-term constraints on the availability of real assets, highlighting the sector’s critical role in future economic growth. This report examines the numerous investment considerations involved in owning and financing real assets, leveraging PGIM’s decades of experience investing across the sector.

In our evolving macro regime, physical capacity will increasingly influence economic growth through the availability of hard assets, such as housing, logistics networks, energy systems, and digital infrastructure. Yet, the constraints on these assets can span time horizons as their consequences become apparent.

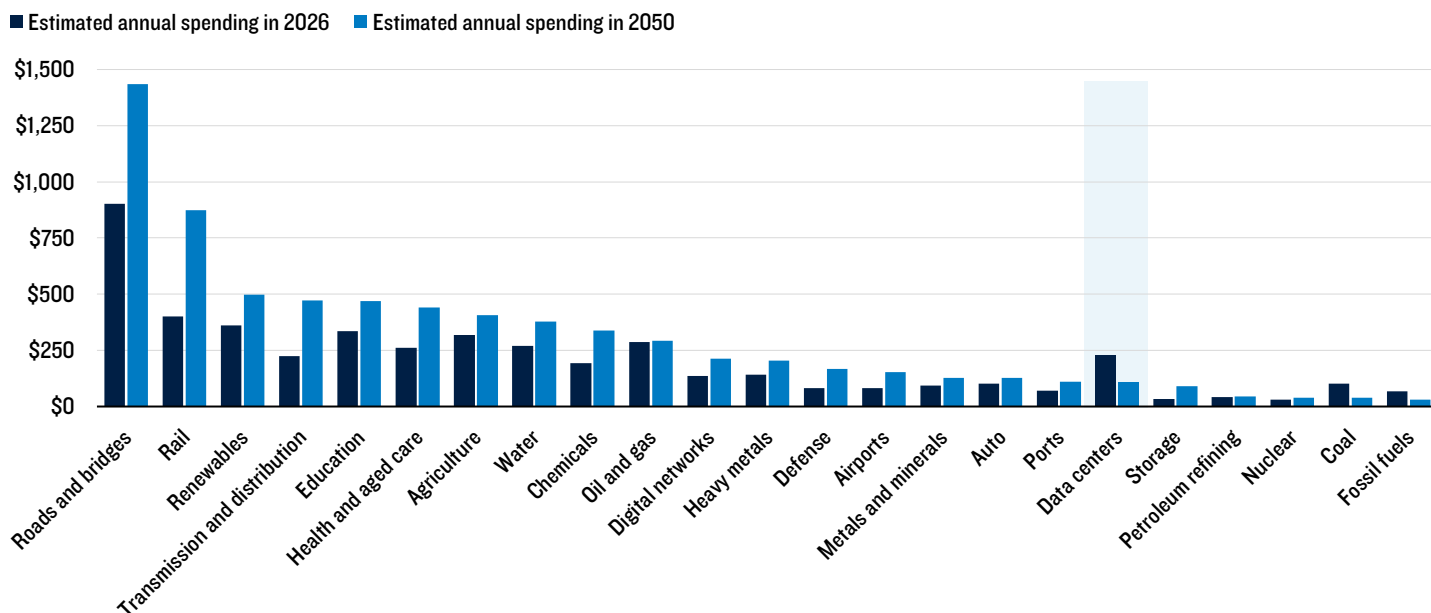
For example, the effects of geopolitical-related shipping disruptions can lead to short-term price spikes and may

consequently prompt governments to boost supply inventories or to seek shipping workarounds over the long term, further squeezing existing capacity. The combined effects of capacity constraints emphasize the need for significant investment in various forms. Yet, new infrastructure takes time to build, presents limitations in planning and resources, and is capital intensive.

The cumulative global investment needed by 2050 is on the order of \$150 trillion, according to PwC, or the equivalent of \$75,000 per global household (Exhibit 2).² Similarly, deglobalization, reshoring, and friend-shoring—not to mention age-related replacement needs—are accelerating global investment requirements. Traditional infrastructure categories, such as roads, bridges, and rails, are expected to

Exhibit 2: Roads and rails will drive significant infrastructure spending through 2050, while data center construction is set to plateau in the coming years

USD billions



Source: PwC. As of April 2026. Spending figures are in real 2023 U.S. dollars.

¹ The era of Great Moderation is referenced between the late 1980s and late 2019.

² PwC, “Global Infrastructure Outlook 2025-50,” April 28, 2026. The estimate per household is based on two billion global households.

remain the highest investment categories on an annual basis over the coming decades. Energy transmission and distribution, health and aged care, and digital networks are also expected to continue climbing until 2050.³ While spending on data center construction may plateau in the coming years, rapid innovation means that a single AI-oriented facility could require three to five rounds of equipment upgrades over a 20-year life. Therefore, the capital expenditures needed on the information and communications equipment within data centers is expected to rise from 70% of total capex to 93% by 2050, driving about \$31.5 trillion of cumulative data center investment by 2050, according to PwC.

A change in macro regimes modifies the challenges facing investors as well. As they pursue their objectives, investors can assess how various real asset sectors respond to their respective constraints, factors that support the assets' cash flows, the different ways that they can access the asset class, and the potential impairment risks. The commodities sector aptly demonstrates how a real asset category responds to the tightening constraints from a historically significant macro shock.

As the demand shock from AI-related capital expenditures intensified in the U.S., the dollar sum of AI-relevant imports

surged to the point where they comprised more than 20% of all imported commodities (Exhibit 3). The surge in AI-related commodity demand indicates that AI's ability to scale will be highly dependent on its requisite real asset inputs, such as critical commodities, power, electrical transmission, water, and land.

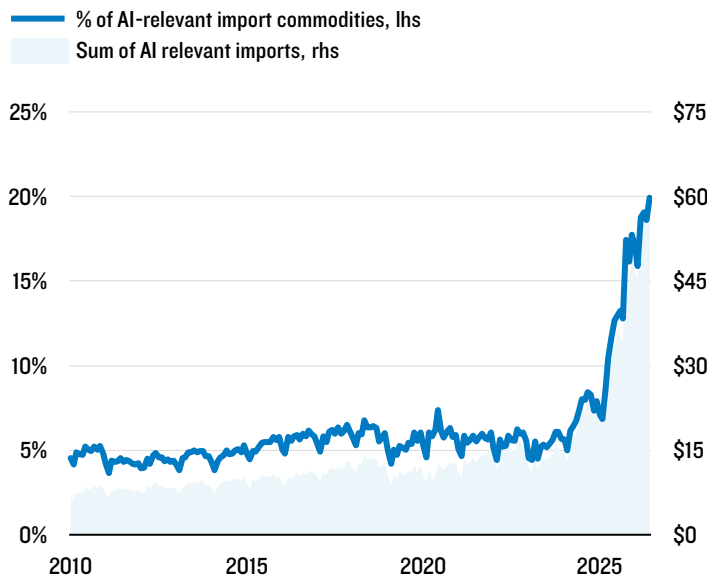
Beyond the AI-demand shock, the constraints on real assets are occurring globally with the term "housing crisis" applying across several major economies (Exhibit 4). The housing constraints contribute to a shortfall that isn't expected to reach 2015's deficit levels—never mind balance between supply and demand—until 2028.

Inflationary pressures are another hallmark of the new macro regime. The loosening of global fiscal policies, labor supply shortfalls, climate events, and broad increases in U.S. tariffs represent some factors potentially beyond the reach of monetary policy that may contribute to an environment of historically elevated inflation going forward. For reference, we see a U.S. inflation rate of 2.5% annually over the next 10 years, above the Federal Reserve's stated target of 2%.⁴

Real assets can provide a partial inflation hedge over various time horizons and with varying degrees of liquidity. For

Exhibit 3: More than 20% of U.S. commodity imports are now AI-related

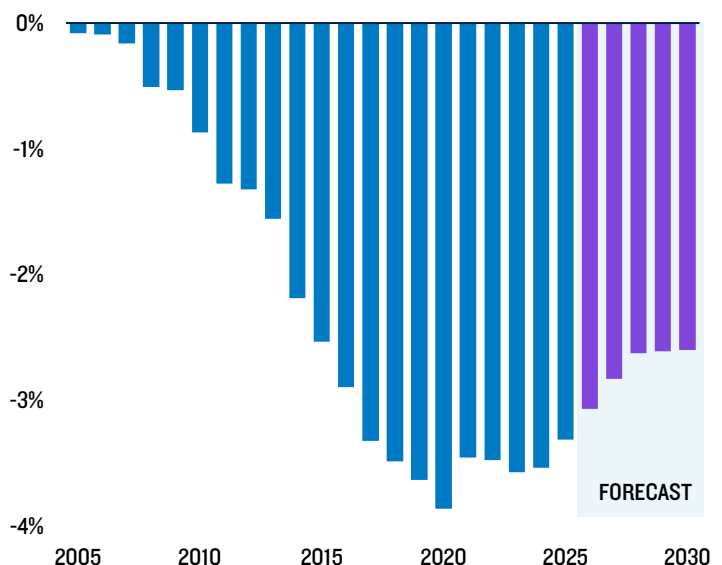
Growth in AI-relevant import commodities (percent) and AI relevant imports (USD billions)



Source: Macrobond and PGIM. As of July 2026.

Exhibit 4: Global housing shortages are likely to persist for years

Estimated housing shortfall, major global economies, percent of households



Source: PGIM, Oxford Economics, CoStar, PMA, and U.S. Census Bureau. As of January 2026. Housing shortfall estimates reflect PGIM analysis of major global real estate investment markets including: United States; UK, France, Germany, Italy Netherlands, Spain, Sweden, and Denmark in Europe; and Australia, Hong Kong, Japan, Singapore, and South Korea in Asia Pacific.

³ PwC, "Global Infrastructure Outlook 2025-50," As of April 28, 2026.

⁴ IMF forecasts represent our starting point for 10-year inflation. Actual inflation outcomes may materially differ. For additional information, read our Capital Market Assumptions at pgim.com.

example, during periods of elevated inflation, commodities can provide a short-term liquid inflation hedge, but less so over the long run. Hence, the varying attributes of real assets underscore the importance of an actively managed approach to the sector across economic cycles.

While scarcity can support pricing and asset value, it also raises additional considerations for investors, including development costs, project delays, and regulatory oversight. Therefore, investors should examine the durability of demand, the responsiveness of supply, responsibility for construction and operating risks, and the policies that influence economics.

Our assessment of the constraints on the real asset sector leads to some high-level findings. Real estate offers income and long-term sensitivity to rent and replacement costs, with specific outcomes determined by location, sector, supply, and asset quality. Data centers sit at the intersection of digital demand and physical limits, including those on power, water, land, and permitting. Chip obsolescence—and the voracious demand for cutting-edge conductors—is another related constraint. Commodities, natural resources, and agriculture can link portfolios to energy, materials, and food systems. And debt can finance the buildout across infrastructure, real estate, agriculture, energy, communications, and transportation. Across all of these sectors, regional differences in supply and demand drivers can reveal performance and diversification opportunities.

As investors consider real asset allocations, part of that decision process involves determining the desired role of real assets in a portfolio and how enhanced exposure to a sector facing numerous constraints can improve overall outcomes. When it comes to specific performance, the relevant questions pertain to liquidity, growth or income, inflation sensitivity, and position within the capital structure. The chapters that follow examine the real asset opportunity through that decision lens.

KEY TAKEAWAYS

- The evolving macro regime is tightening constraints on real asset capacity; understanding the effects of the various constraints is critical for investors
- Most of the investment needed through 2050 is in traditional infrastructure, such as roads, rails, and electrical transmission
- With data center construction expected to plateau, segment the construction phase from equipment upgrade cycles
- Elevated inflation pressure is a hallmark of the new macro regime; real asset sectors respond to inflation differently, warranting awareness, selectivity, and active management
- Determine the real asset mix to pursue investment objectives, such as income, growth, inflation sensitivity, and diversification outcomes

REAL ESTATE RESET'S GLOBAL OPPORTUNITIES

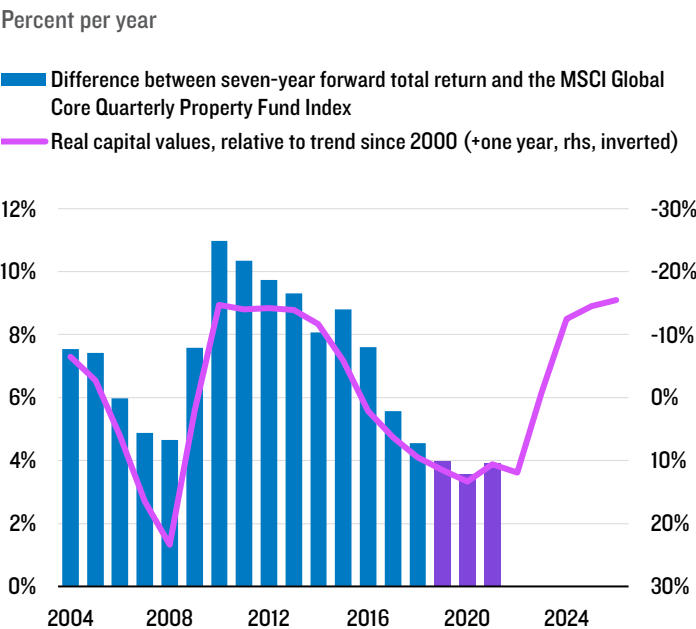
When compared to other major asset classes, private real estate remains in an early-cycle phase following the pandemic-era stress and the jump in global interest rates.

Real estate’s early-cycle conditions indicate a recovery off the lowest valuations in more than a decade. From a historical perspective, the sector’s returns tend to follow periods of recovering values (see 2008-2009 in Exhibit 5).

The composition of that future performance also warrants consideration. After all, in an era of potentially elevated inflation and interest rates, rental value growth and income generation will likely contribute more to returns as opposed to yield compression, which played a larger role in generating returns during the prior cycle.⁵

From an income perspective, real estate rents oscillate in cycles, outperforming or underperforming in the near term based on rising construction inputs, tenant rent passsthroughs—given that rents are highly cyclical in real terms—and market rent growth, depending on the sector and geography.

Exhibit 5: Real estate’s reset sets the stage for future performance



Source: INREV, ANREV, NCREIF, CoStar, JLL, PMA, and PGIM. As of April 2026. For illustrative purposes only. Forecasts may not be achieved.

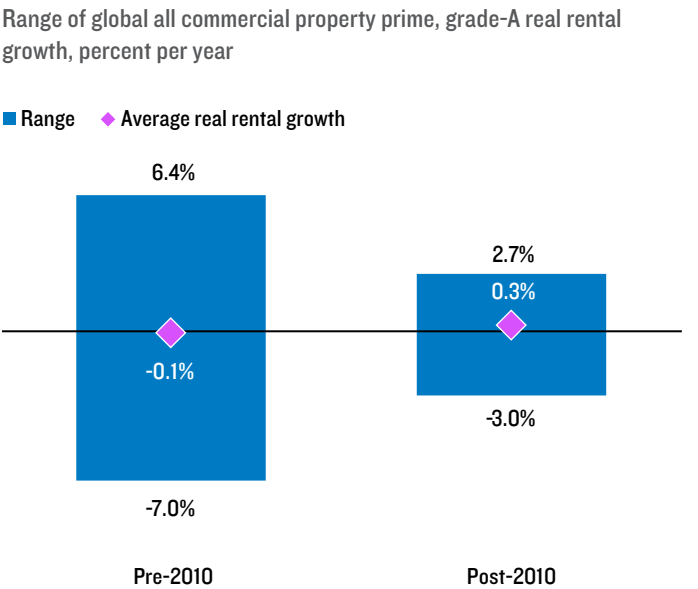
⁵ Estimates for return attribution are referenced from MSCI.

Despite the short-term oscillations, rental growth across all global property types has remained fairly constant from a long-term perspective and has improved since 2010. The range of outcomes has also narrowed in recent years, contributing a degree of income predictability (Exhibit 6).

When viewed over a longer time horizon, the periodic differences between rental income and inflation are apparent. Yet, the last several years shown in Exhibit 7 indicate that rental income can not only keep pace with inflation, but that it can outpace inflation even at its recent, accelerated clip. Hence, global real estate’s inflation hedge appears to be most effective over the long term, which reiterates the varying characteristics across the broader real asset universe.

The relationship between real estate assets and inflation has also become more favorable through a period of low inventory, which is another sign of the constraints within the sector.

Exhibit 6: The narrowing range of real rental growth



Source: CoStar, Cushman & Wakefield, JLL, PMA, and PGIM. As of June 2026.

As one indication of the sector's supply-demand imbalance, net global additions for all property types are expected to reach a historic low of less than 1.5% in 2028, while construction attractiveness is set to rise to its highest level in more than a decade. The historically wide gap between what could be built and what will likely be built (the forecast column in Exhibit 8) is one measure of the significant crimp in the global supply pipeline that points to ongoing shortages of grade-A space.

With supply growth holding at low levels, real estate occupancy rates are set to remain elevated throughout a range of economic scenarios, adding to cash flow predictability. In addition, the scarcity of supply implies greater rental growth potential than would otherwise be expected given the moderate rates of economic growth, especially outside the U.S. Given the backdrop above, we believe that the early phase of the current cycle is shaping up to include some strong investment vintages. However, a rising tide will not lift all property types or markets. As gaps between winners and losers widen, selectivity and diversification will be rewarded. Diverse exposures by sector and region can create portfolios that are more resilient to idiosyncratic developments.

To identify the most compelling opportunities in the current cycle, investors need a structural foundation for evaluating the sectors and regions that are optimally positioned. The Everyday Life category, which we define as spanning the vast living and urban infrastructure sectors, not only provides that foundation, but it also directs capital to an area of significant societal demand.

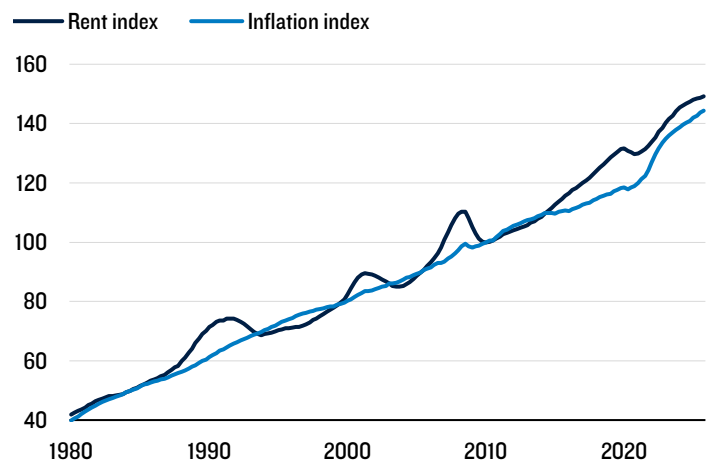
In core and core-plus portfolios, capital can be deployed in several ways to meet the Everyday Life theme, including buy-and-hold, build-to-core, and an expansion into operational living sectors that offer higher returns and are increasingly seen as part of the core investment landscape.

From a sector perspective, considering the global housing shortages and related affordability challenges, co-living is an emerging solution, particularly in Europe and Australia. Demand for co-living is strong among young professionals, students, and commuters. Modular buildings are garnering interest as well. In Australia, where vacancies are low and urban populations are rising, multifamily modular living can be more affordable than traditional apartments. Pre-fab construction can deliver high-quality, modern properties that meet strict local regulations while keeping building costs low. Senior housing is another area of need globally, as aging populations and a lack of suitable projects drive demand for funding.

Urban infrastructure forms the physical and digital backbone that supports modern city living. Last-mile logistics can connect production, trade, and consumption, and they have generated strong rental growth amid a shortage of warehouse

Exhibit 7: In aggregate, real estate rents tend to keep pace with inflation over time

Index of global all commercial property prime/grade-A rents and inflation, indexed to 100 at 2010



Source: CoStar, Cushman & Wakefield, JLL, PMA, and PGIM. As of June 2026.

capacity near high-demand urban areas. Logistics properties in the U.S., Mexico, Europe, and Australia are areas of expanding logistics supply. Exposure to necessity retail assets, anchored by non-discretionary spending and daily-needs services like grocery stores, can be another source of resilient cash flow.

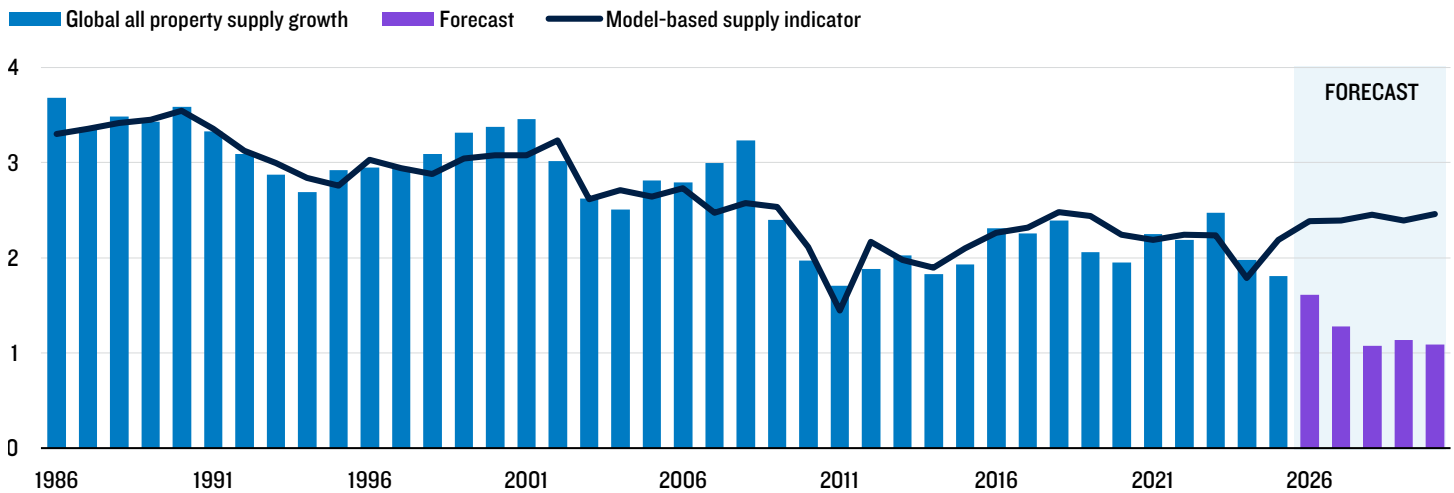
The healthcare subsector is frequently subject to demographic trends and supply constraints. Structural shifts in the population base and the delivery of medical care are driving increased demand in a sector that has historically provided predictable and economically resilient income growth. Furthermore, liquidity and pricing are improving. The health system's influence over on-campus properties can also improve performance, which is another key factor within the sector.

While the themes of constraints and needed investment extend globally, they may present differently in specific regions. Geographic focus is key as certain markets, such as the U.S., Germany, the UK, and Japan, are large enough for deployment at scale. Major cities in those countries can capture the potential productivity effects from increased AI adoption, while also mitigating its negative risks, such as those pertaining to job displacement. In Europe, low vacancy remains a key theme after a tepid building cycle and stock reductions in the retail and office sectors. Supply shortfalls are also apparent for data centers and apartments amidst consistently strong demand.

With that background, our top picks in Europe consist of major city apartment markets, self-storage facilities, open-air hospitality, and low-vacancy offices in central business districts

Exhibit 8: Constrained supply points to ongoing shortages of grade-A space, likely supporting occupancy and rents

Net additions to global all property supply growth versus Construction Attractiveness Index, percent per year



Sources: CoStar, JLL, PMA, Oxford Economics, Bureau of Labor Statistics, World Bank, and PGIM. As of April 2026. Note: Construction Attractiveness Index is estimated using a regression that includes real global construction costs (three-year lag) and real prime global all property rents (two-year lag). Forecast is from 2026-2030.

(CBD). We're more cautious toward high-vacancy retail markets and big-box logistic facilities.

In Asia-Pacific, the dispersion between the upper and lower quartile markets is the widest of our preferred global markets, and the living sector's opportunity set is expanding into higher density rental sectors, such as co-living and multifamily. In the office sector, a flight to quality among tenants is driving a stronger rental growth outlook, especially for grade-A assets.

In that context, our preferred sectors in the Asia-Pacific region consist of Japan multifamily, necessity retail, hotels, and CBD office in Japan, Australia, and Singapore. We're cautious towards high-vacancy logistics markets.

In regions that provide more specific exposure, such as to Mexico's industrial sector, the effects of constraints can be even more apparent. Indeed, power, water, and infrastructure limitations in Mexico restrict new industrial development, while regulatory hurdles create barriers to entry. On the demand side, global nearshoring effects continue to drive manufacturing expansion across the country, while constrained supply continues to support rental growth and landlord pricing power.

Finally, our discussion on constraints in real assets turns to the digital realm, which increasingly spans real estate and infrastructure as AI adoption continues to permeate economies. The speed and scale of the AI expansion also underscores the importance of remaining at the forefront of foundational technologies as we monitor its economic integration and assess its potential effects on real asset performance.⁶

KEY TAKEAWAYS

- Real estate valuations are recovering from the lowest levels in more than a decade; the sector's returns historically follow periods of value recovery
- In a regime of structurally higher inflation and interest rates, income and rent growth will likely drive returns as opposed to yield compression
- Rental income fluctuates over the short term, but tends to track, or even outpace, inflation over the long run
- Real estate constraints can be acute in regional markets, leading to areas of specific opportunities, such as industrial facilities

⁶ Visit pgim.com for information on RealAssetX, PGIM's real estate innovation platform.

DATA CENTER CONSTRAINTS AND THE AI BUILDOUT

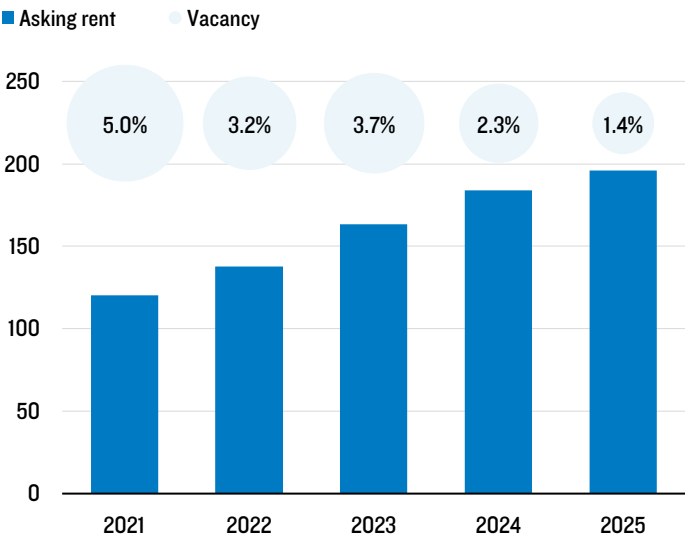
Data center investments intersect numerous asset classes from venture capital to public equities. Yet, real asset sectors account for about 60% of the estimated \$73.2 billion investable universe, according to MSCI. The significant intersection between real assets and data centers is another reminder that further expansion of the digital world is increasingly constrained by the availability of hard assets.

The impact of the AI demand shock is not only apparent in the prices for tangible inputs, such as electric components, suitable land, and power, but it is also visible in data-center vacancy rates themselves, which fell to a new cycle low in 2025, sustaining upward pressure on rents (Exhibit 9).

As we observe the constraints around the AI buildout, several trends may warrant further attention from investors with a caveat around what is quickly becoming a highly-politicized sector.

Established cloud-capable data center hubs with access to power typically command premium and defensible pricing. Constraints on power supply and grid access protect the value of data centers that are already powered and in favorable locations.

Exhibit 9: Limited data center supply is driving rents up
U.S. primary-market asking rent (USD/kW-month) vs. vacancy (percent)



Source: CBRE North America Data Center Trends (H2 2022, H2 2023, H2 2025; national average asking rate, 250–500 kW, primary markets) and JLL (year-end 2025). 2021 and 2024 rents interpolated from CBRE-reported year-over-year growth.

Frontier markets possess the power and land needed for large-scale AI training and machine learning, which do not require low latency.

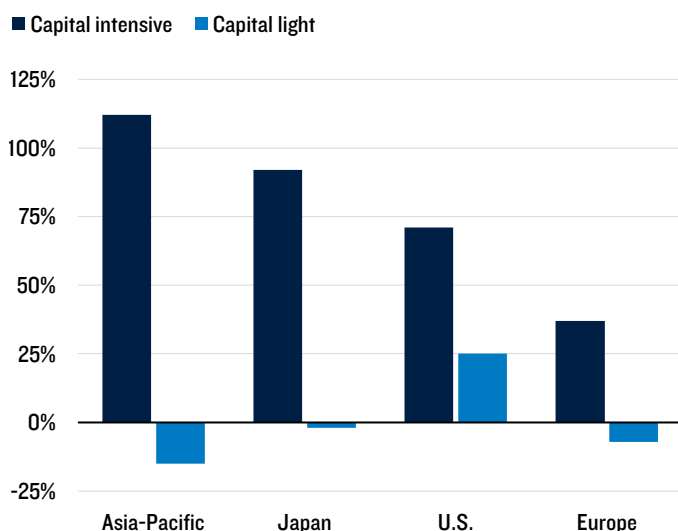
Long-term leases with hyperscale tenants can also create stable cash flows, and assets can later be monetized to capture the value generated through the development and leasing stages. Furthermore, permitting and limited access to power and land set high barriers to entry that make the business difficult to replicate. We touch upon the performance of data center-related assets on page 17. Data centers derive considerable value through their long-term utility service agreements, which provide access to significant amounts of power irrespective of potential AI disruption. This electricity could serve other power-intensive purposes in the future, such as for robotics, contributing to long-term value creation.

The value creation in data centers has introduced a newfound appreciation for capital-intensive, low-obsolete investments as opposed to those that are “capital light” and subject to greater obsolescence risks. For much of the last few decades of globalization and ample capital, markets rewarded intellectual property, intangible assets, and asset-light business models: attributes that are now increasingly vulnerable to technology’s creative destruction and accelerating advancements. The software sector is a case in point of a capital-light industry facing vast disruption from AI adoption.

Hence, markets are increasingly attuned to the asset quality that is acquired as part of an allocation to real assets. The emphasis is apparent as companies with consistent capital expenditures and tangible assets, particularly in the Asia-Pacific region (Exhibit 10), have outperformed their capital-light peers. The perceived preference for capital-intensive companies is due to their capacity, networks, and engineering capabilities—attributes that are expensive to replace and less vulnerable to tech-related disruption.

Exhibit 10: Capital-intensive equities have outperformed capital-light names

Price performance since 2022, percent



Source: Bloomberg and Goldman Sachs. As of July 2026.

Furthermore, investors seeking to mitigate obsolescence risk might favor data center strategies in which the end customer is responsible for the infrastructure—including servers and related equipment—and assumes the obsolescence risk. With this approach, the owner's exposure is concentrated in the physical infrastructure required to support compute capacity, including land, the building, cooling systems, and utility connections. Value creation can occur through securing scarce power and development rights, delivering highly-desired capacity in supply-constrained markets.

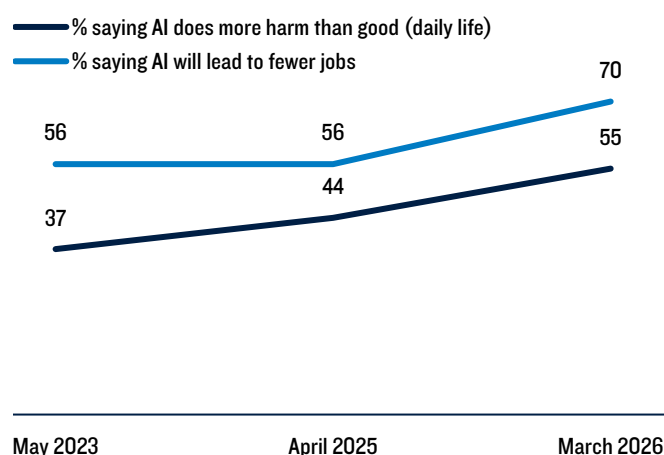
Data centers, along with other capital intensive assets, can also consume a list of significant resources, including water, 21 different minerals (most of which are imported into the U.S.),⁷ substantial tracts of land, and power. Even as compute demand rises, continued advances in liquid cooling, chip-level efficiency, workload optimization, and energy management systems may help moderate the sector's power intensity or water usage over time. For example, new data centers are typically constructed with liquid cooling systems, rather than evaporative cooling, easing water consumption.

However, the caveat is that the resources required by data centers has pulled them into the political fray in certain regions, including at the U.S. state and federal levels.

Citing energy constraints, environmental concerns, and potential impacts to ratepayers, some U.S. jurisdictions have issued (e.g., New York State for the next year) or debated

Exhibit 11: Public concern is emerging as a potential constraint on AI growth

Percent of total polled participants



Source: Quinnipiac University National Poll on AI (2023, 2025, and 2026).

moratoriums on building certain new data centers. Not-in-my-backyard sentiment increases execution risks, given permitting hurdles and a shrinking pool of available sites. Furthermore, the survey results observed in Exhibit 11 show the mounting, negative sentiment regarding AI's impact on daily life and the labor market. The debate could reach a crescendo up until the U.S. mid-term elections, as candidates from both parties incorporate anti- and pro-data center policy arguments into their respective platforms.

Mounting calls for heightened regulation from within the industry are also becoming louder amid the rapid acceleration in model capabilities. The burgeoning negative sentiment and regulatory calls are additional realities that real asset investors must acknowledge.

However, anti-data center initiatives—and potential constraints—may be countered at the executive branch level. For example, in the U.S., the Federal Energy Regulatory Commission (FERC) recently issued orders to accelerate grid connections to increase data center development.⁸ The emphasis on connection times also indicates the U.S. administration's belief that the continued AI buildout is imperative in the global race to lead in AI and other foundational technologies.

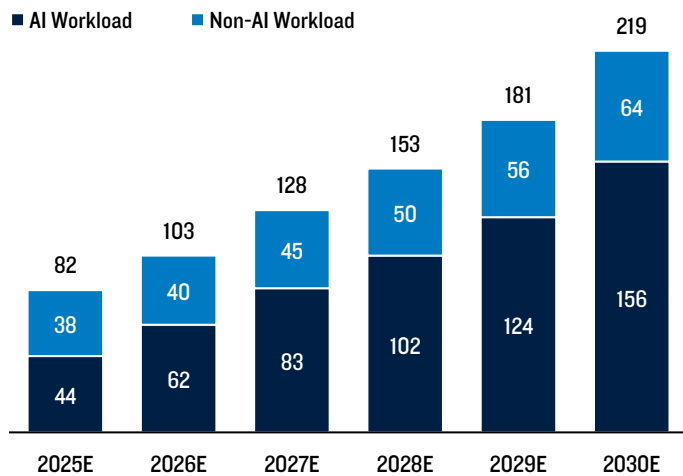
Even as public pressure mounts, society's reliance on cloud computing, AI adoption, and national security issues will require more compute power to meet the surge in demand

⁷"Key Minerals in Data Centers," USGS, July 2025.

⁸"FERC Takes Action to Supercharge America's Grid for Efficiency, Reliability, and a Bold Energy Future," FERC, June 18, 2026.

Exhibit 12: AI workloads are expected to grow 3.5x by 2030, driving data center compute demand

Global data center capacity demand by workload type, gigawatts



Source: McKinsey Data Center Demand Model, Gartner, International Data Corporation, and Nvidia Capital Markets. As of April 2025. Estimates are not guaranteed and may not be a reliable indicator of future results. Figures may not sum due to rounding.

(Exhibit 12). Limits imposed on new data center builds might slow development while exacerbating supply constraints, potentially supporting rental growth and extending the industry's investment period.

Therefore, investors could mitigate political risk by employing strategies that focus on meeting intense demand for low-latency cloud and inference-capable data centers. Markets that are geographically located near population centers, cloud networks, and language models represent a more durable segment of the data center space due to broad constraints, i.e., the persistent supply-demand imbalance. Many of these markets already face a limited amount of local resources, such as power, water and land. Limits imposed on new data center construction could further squeeze supply, thus supporting rental income and the sector's future growth potential.

KEY TAKEAWAYS

- About 60% of the data center investment opportunity is through real assets, underscoring AI's need for hard assets in order to scale
- We favor cloud-capable hubs and certain frontier markets; long-term leases are preferable
- Technology's creative destruction and rapid advancements heighten the emphasis on capital-intensive, low obsolescent assets
- The political effects from mounting negative sentiment towards AI is another constraint for investors to navigate

CONNECTIONS FROM COMMODITIES AND NATURAL RESOURCES

Energy security, geopolitical competition, and food production are a few of the global factors that can affect constraints across the commodities complex. Much of the newfound emphasis on economic resiliency and energy security comes amid the wars in the Middle East and Ukraine.

While the conflicts demonstrate that the need to import energy is now a systemic risk, the constraints on energy commodities frequently spill over to the broader natural resources universe. Higher energy costs, geopolitical disruptions, and limited transport capacity can raise the cost curve for energy-intensive commodities and industrial materials. While short-term demand reduction may depend on substitution effects, the investment implication is that scarcity can support certain commodity prices in instances of durable demand. For example, global AI capex is creating new demand for commodities, like copper, that have long investment cycles, requiring higher prices to incentivize investment to meet demand.

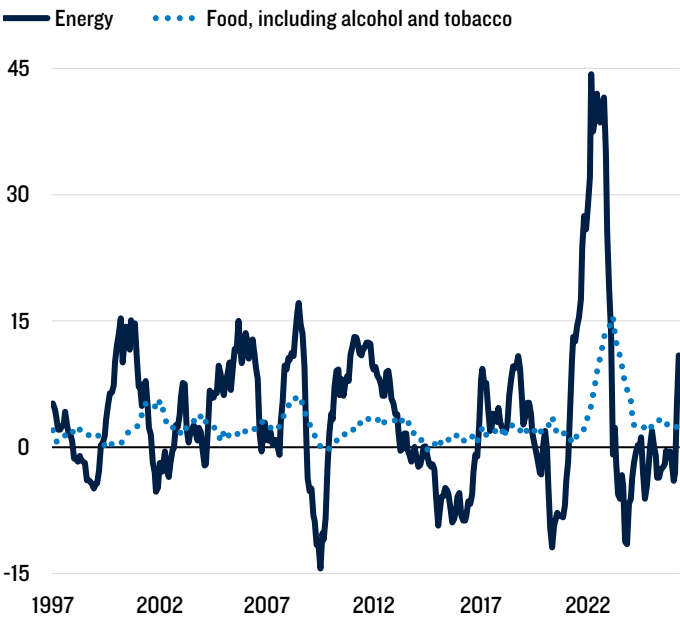
In terms of the spillover effect, an energy supply shock is often followed by an increase in food prices due to higher energy

input costs and the disruption in input supplies, such as fertilizer. Exhibit 13 shows that food prices in the euro area, which has been at the forefront of energy strains from both conflicts and experienced a severe drought in 2026, tend to follow energy prices with a slight lag.

When capital, energy, labor, transport, or permitting capacity is constrained, commodity producers may struggle to bring new supply online quickly, even when prices signal a need for investment. That can extend periods of tightness, increase the value of existing assets, and raise the importance of active management across liquid commodity exposures, natural-resource equities, and private agriculture.

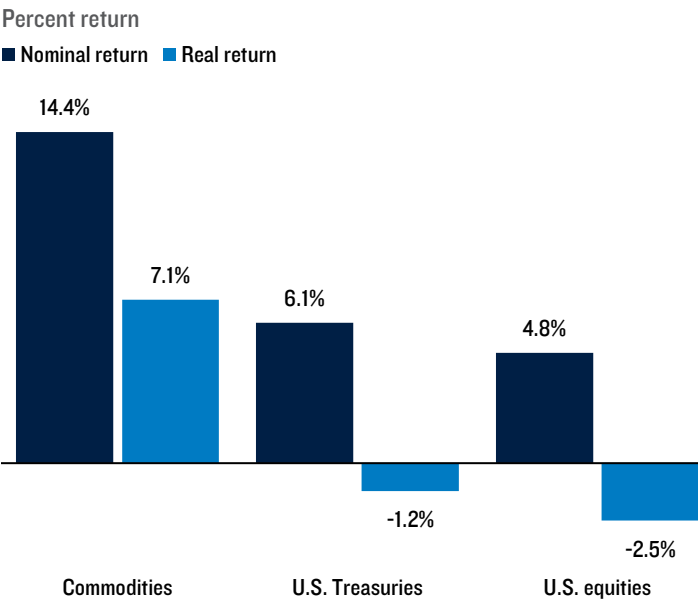
Although global governments may encourage investment and production, it is increasingly likely that these initiatives

Exhibit 13: EU food prices tend to follow energy prices closely
Euro area food and energy inflation, annual percentage change



Source: Macrobond and PGIM. As of April 2026.

Exhibit 14: During periods of elevated inflation, commodities may provide a short-term hedge



Source: PGIM, FactSet, Datastream, and Bloomberg. As of March 2026. High-inflation periods consist of average inflation of 7.3%. Based on a quarterly sample period from Q2 1973 to Q4 2025.

are aimed at securing their own supply chains of critical commodities as opposed to adding to the global supply.

Weather-related developments play a significant role across the complex, depending on geography and effect. Indeed, the pending effects of what may be a historic El Niño pattern across portions of Central and South America are expected to lead to drier-than-normal conditions, straining hydroelectric capacity and leading to sharply higher volatility in spot electricity prices. The opposite effect may occur in regions with wetter El Niño conditions.

From an agriculture perspective, productivity gains, commodity price increases, and a reduction in arable agriculture land are driving appreciation. Strong crop prices and robust net farm income have boosted farmland values, with direct farming operations and leases providing a steady source of income return.

Within a portfolio, commodities can complement public market exposures with a source of historically uncorrelated returns. During periods of elevated inflation, commodities tend to outperform other, traditional liquid asset classes, such as equities and fixed income, providing a liquid, short-term hedge to inflation while other assets may struggle to generate positive real returns (Exhibit 14).⁹ However, commodities tend to underperform equities and Treasuries during periods of low inflation, underscoring the importance of actively managing exposures over a full economic cycle. In this context, certain commodity strategies (e.g., long-only approaches with a 1-2% alpha overlay) can help offset the structurally lower expected returns of traditional long-only commodity exposures throughout a full economic cycle.

KEY TAKEAWAYS

- Consider commodities for a near-term, relatively liquid inflation hedge
- Focus on scarce resources supported by durable demand
- Weather-related developments play a significant role; determine the effects by geography and asset class
- Actively adjust exposure as inflation and supply conditions shift

⁹ Past performance is not an indication that similar results will be achieved in the future.

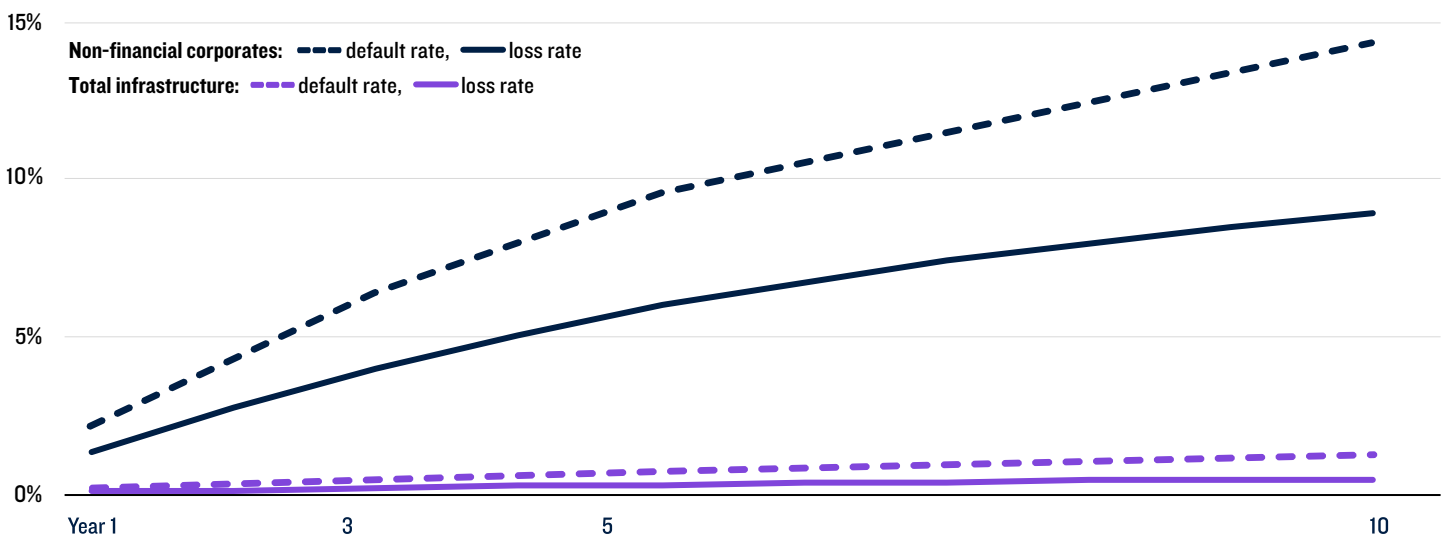
APPROACHES TO FINANCING REAL ASSETS

Considering the capacity constraints across the real asset universe, the sector will require significant capital in many forms. Financing approaches offer access to the sector with various attributes, including income generation, corporate credit diversification, and compelling relative value. For investors with corporate credit exposure, allocations to private debt backed by real assets offer diversification from corporate credit risk through high-quality investments that can be generally loss remote.

Structures can incorporate liens and restrict additional debt, asset sales, and changes of control. Covenants, including maximum leverage tests and restrictions on distributions, provide early detection of credit weakness, and step-in rights allow lenders to take ownership and maximize recovery in the event of stress. These key features can support a lower probability of default and lower credit losses in debt backed by real assets relative to corporate, unsecured debt. For example, in Exhibit 15, the total infrastructure default rate stood at a three-year average of 0.5% and associated credit losses amounted to 0.2% of face value over the same period, according to Moody's. This contrasts with a 6.4% default rate and 4% credit losses per face value for non-financial corporates over the same period. The divergence in credit losses increases over longer periods of time.

To that end, infrastructure debt's structural advantages can also consist of contractual revenue linkages and essential-service pricing power, both of which can act as partial inflation offsets. Furthermore, in real-asset-backed debt with floating-rate coupons, the base interest rate moves in tandem with monetary policy rates. The other aspect of floating-rate coupons is that it minimizes duration, which is another consideration for debt holders—particularly with exposure to unhedged fixed-rate debt—during periods of rising policy rates. From a directional perspective, we expect the Fed to raise its policy rate through the end of 2026 and to keep rates steady in the early part of 2027. Private debt backed by real assets is less liquid than its public counterparts and can feature more complex capital structures.

Exhibit 15: Infrastructure debt has historically experienced fewer defaults and losses than corporate debt
Average overall cumulative default and loss rates, 1983-2022



Source: Moody's Investors Service. Data from 1983-2022, latest data available.

For an example of how these attributes can affect relative value considerations, we turn to the private asset-based finance (ABF) sector, which provides credit that is often secured by real assets, such as digital infrastructure, equipment loans, and agriculture finance. It is estimated to be a \$10 trillion market that also offers structural protections, such as collateral diversification, performance tests, and legal covenants. We estimate that A-rated private ABF can offer a sequential spread pickup of about 150 basis points (bps) over comparably rated U.S. public corporates due to illiquidity and complexity premia.

The various forms of real asset financing can provide a portfolio with a set of diverse sector exposures. Exhibit 16 features several debt financing asset classes along with their key takeaways.

For investors, the numerous ways of financing real assets is another reminder that exposure to the sector can result in varying effects, particularly when it comes to positioning a portfolio for growth, income, or balanced performance, as we explore in our final chapter.

Exhibit 16: Real asset financing provides multiple paths to sector exposure



BUILDING A REAL ASSET ALLOCATION

When considering numerous capacity constraints, inflation pressures, and sequential macro shocks, traditional starting points of portfolio construction have also encountered some new realities.

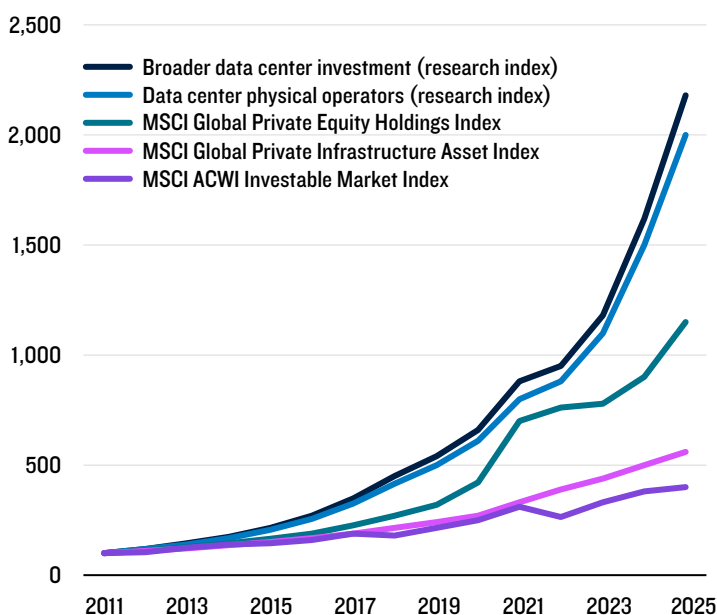
For example, since the pandemic, a portfolio of stocks and bonds has encountered more frequent bouts of simultaneous volatility. With this periodic increase in stock-bond price correlations, investors are considering assets that can support portfolio growth and income generation while also improving diversification throughout an economic cycle.

The preceding chapters examined the mounting capacity constraints across the real asset sector and how they manifest depending on asset class, geography, and position in the capital structure, amongst other factors. In this chapter, we create an enhanced multi-asset portfolio to demonstrate the potential attributes of a real asset allocation and how it may be managed in pursuit of investors' respective objectives.

When aligning objectives to real asset exposure, initial considerations include identifying the attributes desired in a portfolio, the asset most closely linked to it, the risk factors

Exhibit 17: The data center outperformance was propelled by years of private market exposure and performance

Index level



Source: MSCI. As of third quarter 2025. Indexed to 100 at 2011. Estimated values.

involved, and ways to access those assets for the desired liquidity. The following summarizes potential portfolio outcomes and how they connect to the real asset sector.

Inflation sensitivity: Commodities may offer relatively liquid, short-term sensitivity during periods of elevated inflation. Certain real estate cash flows may adjust over longer periods, depending on leases, supply, demand, and market conditions. To that end, we generally find that real asset allocations designed to tilt a portfolio toward growth or income also improve inflation sensitivity to varying degrees.

Growth: Data centers and other sources of digitalization offer growth exposure, which can be significant. For reference, Exhibit 17 shows the historical growth of data center assets when they are isolated against broader asset classes, such as private equity, infrastructure equity, and public equity. Yet, development, power, policy, and obsolescence risks point to the need for actively managed exposure.

Income durability: Real asset financing can present durable income, corporate credit diversification, and relative value considerations.

Correlations and diversification: Public and private real assets can broaden sources of return through assets with low levels of correlation with public equities and fixed income. However, diversification can weaken during stress and should be tested rather than assumed. Within a real asset portfolio, real estate and infrastructure investments offer distinct regional exposures, which could provide alternative sources of diversification and returns through cycles.

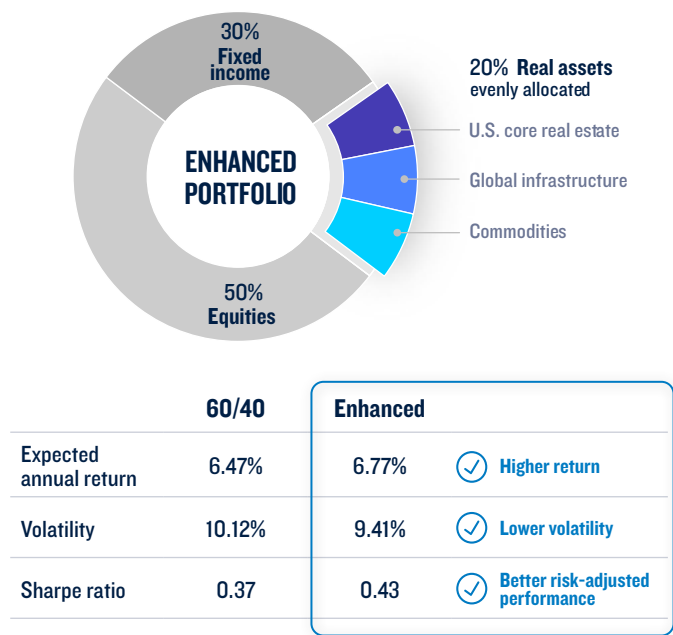
Capital-structure flexibility: Debt and equity provide different participation in asset cash flows, downside protection, upside potential, liquidity, and control.

With the preceding context, Exhibit 18 provides a high-level example of how a real asset allocation can enhance portfolio outcomes. Our example starts with a 60/40 portfolio comprised of global equities and U.S. fixed income with the acknowledgment that an optimal allocation depends on the objectives of the respective investor. For our enhancement,

we reduce the equity and fixed income allocations by 10 percentage points each to create a 50/30/20 portfolio. The 20% allocation to real assets includes the sectors referenced in this report, specifically U.S. private real estate, global private infrastructure, and commodities. As we enhanced the portfolio with real assets, some findings emerged.

With the addition of the real assets sectors, the portfolio’s annual expected return of 6.77% added 30 bps to returns over our base 60/40 portfolio.¹⁰ As private real assets were added to the 60/40 portfolio, its volatility measures declined and improved its measures of risk-adjusted return. The enhanced portfolio added 6 bps to its Sharpe ratio, bringing it to 0.43.

Exhibit 18: Real asset positions can enhance broad-market allocations and tilt a portfolio towards investment objectives



Source: PGIM. As of August 2026. For illustrative purposes only. The core real estate allocation contains a 20% leverage assumption.

We evenly split our real asset allocation to reiterate that investors can actively adjust their exposures to tilt a portfolio towards their tactical or strategic objectives. For example, an investor concerned about a six-month spike in inflation due to the constraint of a supply shock could increase the commodities allocation, while dialing back allocations that may be negatively affected by the inflation surge. Similarly, investors with long-term inflation concerns could increase their core real estate exposure or those seeking growth potential could emphasize infrastructure assets critical for further technological advancements. The enhancements in our sample portfolio provide a tangible example of how investors can harness the constraints around real assets within their portfolio to advance the pursuit of their objectives.

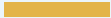
KEY TAKEAWAYS

- We enhanced a 60/40 portfolio with a 20% allocation to U.S. core real estate, global infrastructure, and commodities
- The annual expected return of 6.77% represents a pickup of 30 bps over our base 60/40 portfolio
- As private real assets were added, volatility measures declined, improving our Sharpe ratio by 6 bps to 0.43
- Our even allocations to real asset sectors reiterate that specific exposures can be increased—such as an increase in commodities exposure as a short-term inflation hedge—or decreased depending on objectives

¹⁰ Capital market assumptions are forward-looking and subject to change. Actual results may differ. For methodology, assumptions, and limitations, see our Capital Market Assumptions at pgim.com.

CONCLUSION

REAL ASSETS THROUGH A CAPACITY LENS



The defining investment challenge of the next decade may be less about identifying the next breakthrough and more about identifying the assets required to support it. Housing, logistics networks, energy systems, data infrastructure, and natural resources all depend on physical capacity that can take years and substantial capital to develop.

Real assets provide several ways to participate in that buildout. Investors can own assets, finance them, and combine public and private exposures across capital structures. The investment case will depend on the specific asset attributes, the strength of its cash flows, valuations, and the risks attached to development, operation, policy, and liquidity.

A world of constraints therefore calls for a selective approach. The most useful question is not whether real assets are attractive as a group. It is where capacity is scarce, where demand can endure, and which structures offer the optimal ways to participate.

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