INSTITUTIONAL ADVISORY & SOLUTIONS

Executive Summary

THE DIVERSITY OF REAL ASSETS: PORTFOLIO CONSTRUCTION FOR INSTITUTIONAL INVESTORS

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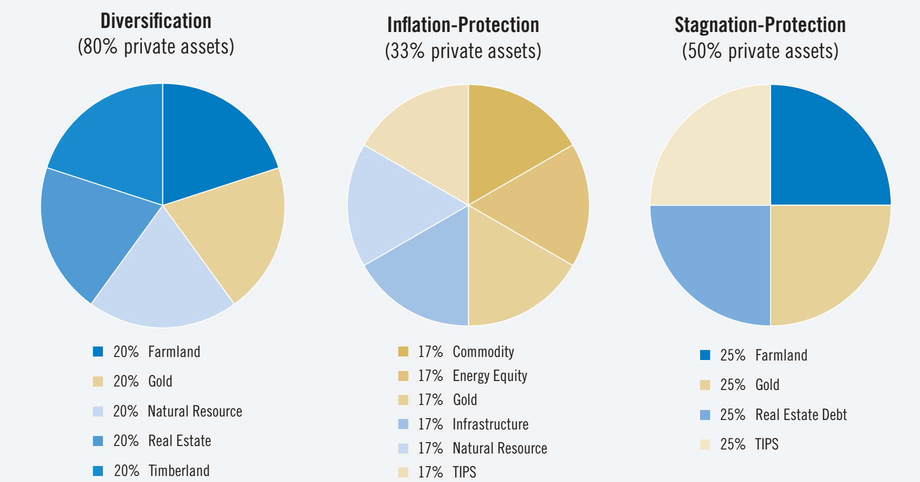
What is the role of real assets in institutional portfolios? To answer, we identify the major real asset classes, both public and private, review their salient features and measure their performance since 1996.

We focus on estimating real asset sensitivities to both macroeconomic variables (e.g., growth and inflation) and traditional financial-market performance (e.g., stock and bond returns). We present a regression framework that addresses the low reporting frequency issues when estimating these sensitivities, especially for illiquid private real assets. While our analysis is U.S.-centric due to greater data availability, our methodology is applicable for non-U.S. investors.

We find that real assets are heterogeneous in their macroeconomic and financial market sensitivities. In addition, we find that these sensitivities are time varying. Our findings support a diversified portfolio approach to real asset investing or active management of real asset portfolios.

Figure 1: Asset Class Weights for the Three Real Asset Strategy Portfolios



Note: Percentages may not add to 100% due to rounding. Hypothetical example provided for illustrative purposes only.
Source: PGIM IAS.

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Using the estimated macroeconomic sensitivities, we construct three real asset strategy portfolios to meet specific investment objectives such as diversification, inflation protection or stagnation protection. Each real asset strategy portfolio comprises different combinations of public and private real assets. Figure 1 shows the composition of these three strategy portfolios: **Diversification, Inflation-Protection** and **Stagnation-Protection.**

Using bootstrap analysis we estimate how each strategy portfolio performs, over a three-year period, (relative to stocks, bonds and a balanced 60/40 portfolio) in different economic environments: ideal, overheating, stagflation and stagnation (Figure 2). We show that the macroeconomic sensitivities of these strategies are more stable than those of the individual real assets.

Figure 2: Top Three Best Performing Strategy/Asset in Each Economic Environment (inflation/growth)

	Ideal	Overheating	Muddled	Stagflation	Stagnation
Inflation &/ Growth	**Low & High**	**High & High**	**Median/Median**	**High & Low**	**Low & Low**
Diversification	✓	✓	✓	✓	✓
Inflation-Protection		✓	✓	✓	
Stagnation-Protection	✓			✓	✓
Stocks	✓	✓	✓		
Govt. Bonds					✓
Scenario Frequency	8.9%	11.4%	53.9%	10.2%	15.8%

Note: : A "✓" denotes top 3 assets, based on 3y average total return performance, in each of the economic environments. Hypothetical example provided for illustrative purposes only.
Source: PGIM IAS.

Finally, we evaluate how these three real asset strategies might fit into a portfolio of a U.S. pension plan. We show that these strategies can help improve funded ratios or lower surplus risk, especially in economic environments such as stagnation or stagflation that are of concern to plan sponsors (Figure 3). This analysis can also be applied to non-U.S. plans.

Institutional investors can use our findings and framework to select specific real assets based on their economic exposures and performance in different environments. Investors can then design a bespoke real asset strategy portfolio that is best suited to meet their specific investment objective.

Figure 3: Average 3-Year Funded Ratio with 10% Allocation to a Real Asset Strategy

	Corporate Plan			Public Plan	
Economic Environments	Representative Allocation	Allocation with Diversification	Allocation with Stagnation-Protection	Representative Allocation	Allocation with Inflation-Protection
Overheating	95.8%	**96.9%**	95.5%	75.3%	**75.8%**
Stagflation	86.1%	**87.5%**	**86.9%**	65.9%	**67.0%**
Ideal	90.9%	90.7%	90.0%	74.8%	73.5%
Stagnation	73.4%	**74.1%**	**74.0%**	56.7%	56.5%
Muddled	89.0%	**89.6%**	88.8%	71.1%	71.0%
Average	87.2%	**87.8%**	87.1%	69.1%	69.1%

Note: Bold suggests an improvement in the outcomes in comparison to the outcomes for the representative allocation. Hypothetical example provided for illustrative purposes only.
Source: PGIM IAS.

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