

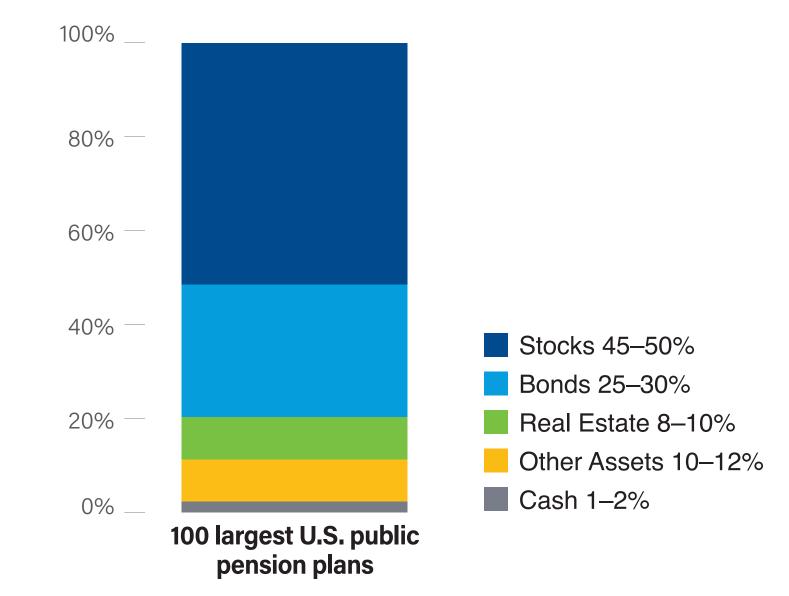
ROB GRONDA

Senior Vice President, Client Relations and Product Development

COMMERCIAL REAL ESTATE

PUBLIC PENSION PLAN ASSET ALLOCATION

U.S. PENSION FUNDS, 2014



Source: Cornerstone, Milliman 2014 Public Pension Funding Study.

2015 PREA PLAN SPONSOR SURVEY

REAL ESTATE HOLDINGS OF PREA MEMBER SURVEY RESPONDENTS...

\$226 billion 8% of assets

Source: Cornerstone, PREA (2015 PREA Investor Report; www.prea.org/research/investors_report.cfm)

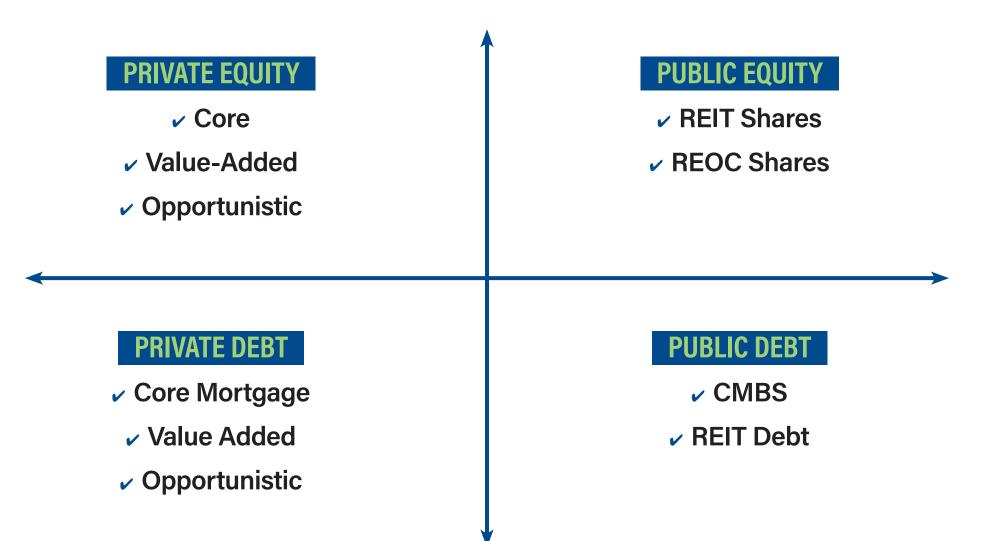
ASSET CLASS COMPARISON ANNUALIZED QUARTERLY INDEX RETURNS, 1977:4 - 2016:2

				Priv. RE		
		Bonds	Stocks	NPI	REITs	CPI
Average Return		7.66%	12.34%	9.07%	13.83%	3.51%
Standard Deviation		6.62%	16.40%	7.55%	17.67%	2.73%
Correlations						
	Bonds	1.00				
	Stocks	0.20	1.00	_		
Priv. RE	NPI	-0.17	0.19	1.00		

REITS 0.22	2 0.56	0.16	1.00	
CPI -0.12	2 0.06	0.40	0.11	1.00

Statistics are based on 4 quarter rolling returns derived as the year to year percent change in the following asset class benchmark indices: S&P 500 for stocks, Baryclays Aggregate Corporate and Government for bonds, NAREIT Equity for public equity REITs, and the National Council of Real Estate Investment Fiduciaries (NCREIF) Property for direct (unlevered) real estate.

4 QUADRANTS OF RE INVESTMENT



REAL ESTATE INVESTMENT VEHICLES

SHARES IN PUBLICLY TRADED REITS

Advantages

- Individual shares
- Broad diversification by sector
- Professional management with specialized expertise
- Liquidity

Disadvantages

- Volatility of the public markets
- Correlation to the equity market

PRIVATE EQUITY REAL ESTATE INVESTMENT VEHICLES

CAPITAL POOLING

Open-End Comingled Funds (CREFs)

- On-going portfolio of properties (no finite life)
- Investors can (usually) buy in and cash out at regular frequent intervals (monthly, quarterly, daily) based on NAV (appraisal-based) of fund equity.

Closed-End Funds (CEFs)

- Portfolio of properties. Investors commit equity at beginning (capitalization phase, then fund is "closed")
- Finite life planned liquidation after specified number of years, though generally some flexibility.

Many RE funds are structured as *Private REITs* to facilitate ownership transfer and a potential IPO, along with other considerations.

WHY INVEST IN REAL ESTATE?

Competitive
 Risk-Adjusted
 Returns

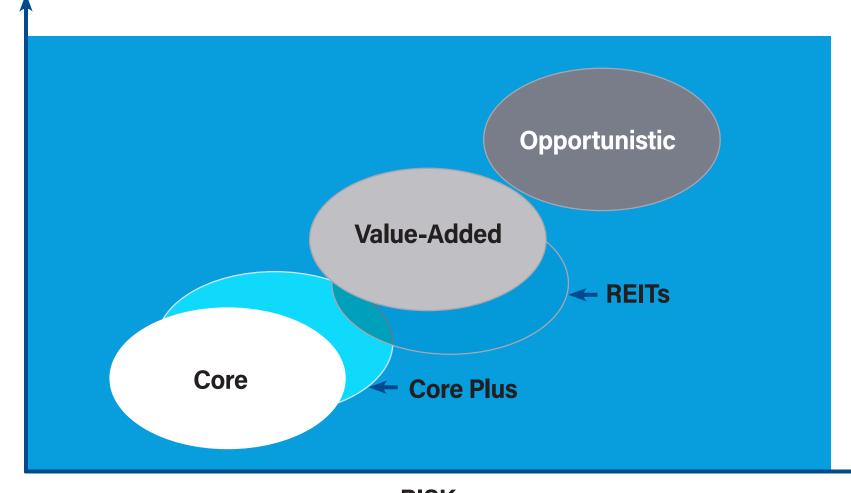
Relatively High,
 Stable Income
 Yield

DiversificationBenefits

Inflation Hedging
 Characteristics

These positive investment attributes of real estate for long-term investors are well documented in numerous academic and industry studies, including "Why Real Estate?" by S. Hudson-Wilson, F. Fabozzi and J. Gordon, The Journal of Portfolio Management, Special Real Estate Issue, September 2003 and The Benefits of Real Estate Investment, Center for International Securities and Derivatives Markets (CISDM), Isenberg School of Management, University of Massachusetts, August 2006.

INVESTMENT STYLES CORE, VALUE ADDED, OPPORTUNISTIC

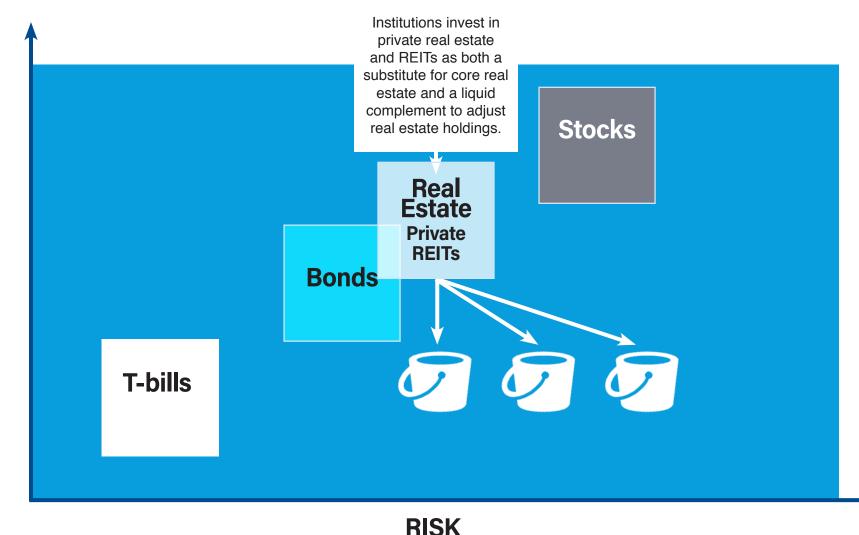


RISK

INSTITUTIONAL RE RISK LEVELS

- Core stabilized properties, major markets and property types moderate single digit returns
- Enhanced Core (Core Plus) leasing challenges, leverage, secondary/tertiary markets, repositioning – mid-to-upper single digit returns
- Value Added renovation, repositioning, re-use, risk-mitigated development, certain property types – low-to-mid double digit returns
- Opportunistic off-shore, high leverage, development, recapitalization, entity level, non-performing loans ... anything goes

THE "RISK BUCKETS" APPROACH TO PORTFOLIO ALLOCATION FOCUSING ON REAL ESTATE (PRIVATE AND REITS)



DIVERSIFICATION WITHIN REAL ESTATE PORTFOLIOS

Number of Properties

Property Type & Geography

Economic Base (refinement of geography)

Investment Strategy/Theme

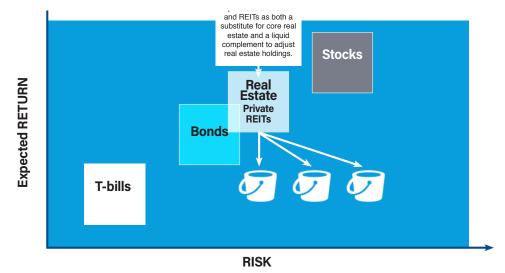
Core, core-plus versus value added

Property Specific Characteristics

Size, Age, Life Cycle Stage, Lease Structures...

THE "RISK BUCKETS" APPROACH TO PORTFOLIO ALLOCATION

FOCUSING ON REAL ESTATE (PRIVATE AND REITS)



Modern Portfolio Theory and Private Real Estate

Appraisal based valuations

Private, infrequent and illiquid market

Non-volatility risk factors



ROB GRONDA

Senior Vice President, Client Relations and Product Development

COMMERCIAL REAL ESTATE