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# Capturing The Benefits of Illiquidity

September 2015

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## **Project Objectives and Executive Summary**

# Project Objectives And Scope

**Objective:** Outline best practices in integrating illiquid investments into defined contribution plan portfolios

Illiquid investments = private market investments

- Not traded on public exchanges
- Not traditionally handled in a daily valuation and trading environment
- Special focus on use in QDIA asset allocation portfolios

Three categories considered in this project

- Hedge funds
- Private real estate
- Private equity

# Summary: A Strong Case Can Be Made For Including Illiquid Assets In Default Portfolio Designs

## Alternative asset classes can be additive to portfolio design

- Superior performance potential
- Uncorrelated sources of return
- Dampened portfolio volatility through fair value pricing of assets

## Valuation and trading issues are manageable

- Numerous precedents for non-market pricing methods
- Liquidity needs can be managed as part of broader allocation

## Risks are related primarily to inflexibility during a severe downturn

- In normal markets, options for exiting illiquid vehicles are available
- In periods of severe market stress, those options will be limited
- Provisions needed for participant-level liquidity through all market cycles
- Thoroughly communicate and document decision-making to minimize litigation risk

## Case Studies

<b>Intel</b>	Alternatives included in custom target-date funds
<b>H-E-B</b>	Custom risk-based portfolios with 20% allocation to illiquid assets
<b>Washington State</b>	Total allocation portfolio in hybrid DB/DC retirement plan
<b>SunSuper</b>	Management of illiquid assets through risk-testing requirements



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## The Investment Case: Overview

# DB Plans Outperform DC Plans: Alternatives Provide An Important Contribution



CEM Benchmarking U.S. Defined Benefit (DB) vs. Defined Contribution (DC) Asset Mix, 1997-2014

Asset Class	Asset Mix		18-Year Returns	
	DB	DC	DB	DC
Broad or Large Cap US Stock	26%	30%	6.4%	7.9%
Small & Mid Cap US Stock	6%	8%	8.8%	9.8%
Global Non-US Stock	23%	8%	4.5%	6.6%
Employer Stock	0%	20%	N/A	8.6%
Fixed Income	31%	10%	7.5%	6.1%
Stable Value	N/A	17%	N/A	4.6%
Cash	2%	8%	2.6%	2.9%
<b>Real Estate, REITs</b>	<b>5%</b>	N/A	<b>9.5%</b>	N/A
<b>Hedge Funds</b>	<b>2%</b>	N/A	<b>7.6%</b>	N/A
<b>Private Equity</b>	<b>4%</b>	N/A	<b>11.1%</b>	N/A
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>8.0%</b>	<b>6.9%</b>

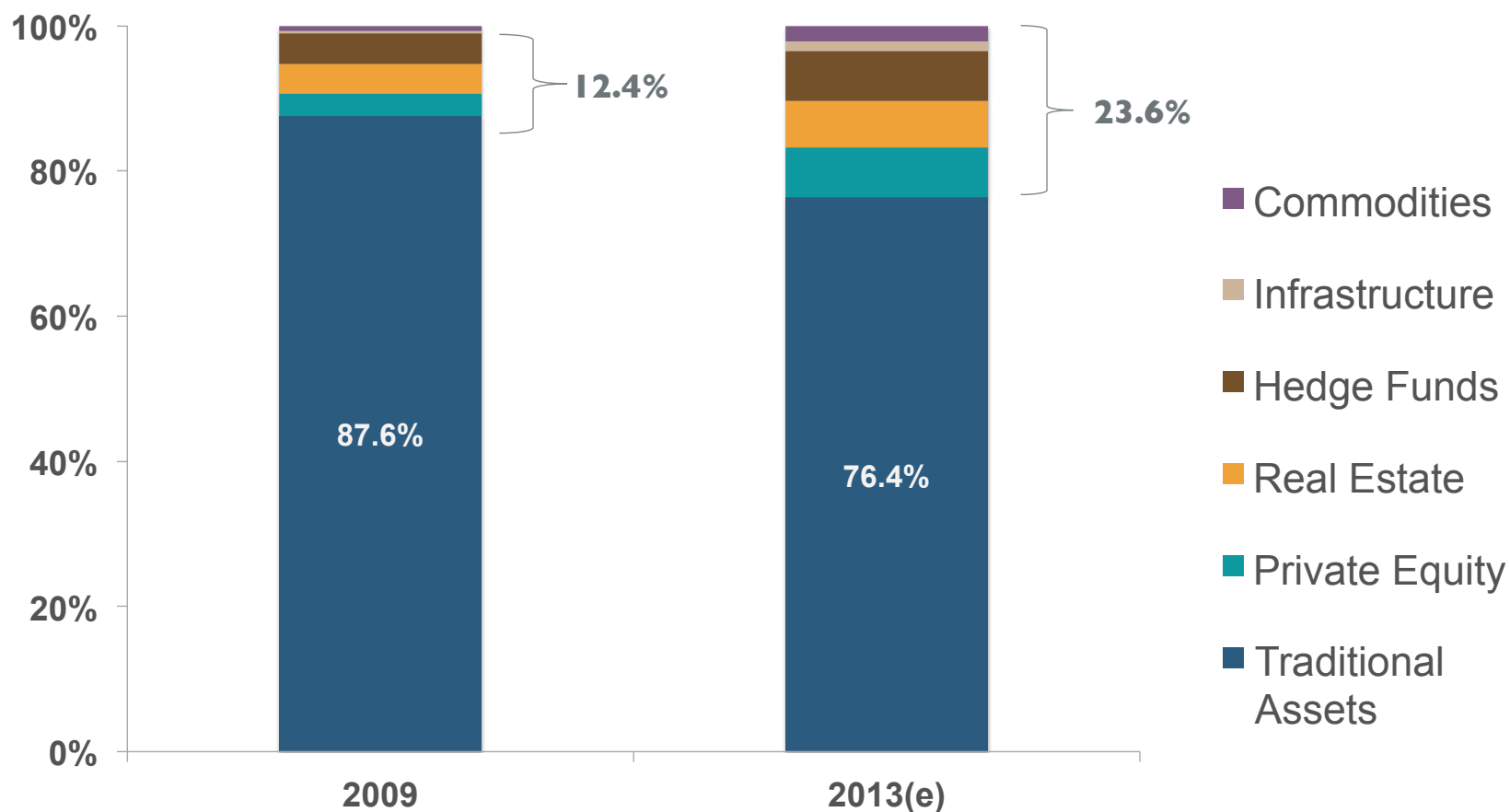
Notes: (1) 18 years from 1997 to 2014. There were 3,037 US DB plan and 2,020 US DC plan observations. Returns are the compounded average of the annual averages for each asset class. Hedge funds were not treated as a separate asset class until 2000, so 60% stock / 40% bond returns were used as a proxy for 1997-1999. (2) Asset mix percentages are the simple average of the 18 years of annual averages. Other, self directed brokerage and mutual fund windows were excluded because the underlying asset mix and performance was unavailable.

Source: CEM Benchmarking



# Are DC Plans Missing Out On Opportunities?

## Institutional Investors' Expected Average Portfolio Allocations



Source: McKinsey/Institutional Investor Global Survey on Institutional Investing 2011 (Simple Averages)

# Including Within Asset Allocation Portfolios

Would including alternatives “add value” to a typical DC Plan?

Alternative Asset Class	Within Asset Allocation Portfolio?	Standalone on Core Menu?
Commodities	49%	6%
REITs	35	20
Diversified Real Assets	33	41
<b>Private Equity</b>	<b>29</b>	<b>2</b>
Infrastructure	27	--
Absolute Return/Unconstrained	24	16
<b>Hedge Funds</b>	<b>24</b>	<b>--</b>
<b>Private Real Estate</b>	<b>24</b>	<b>--</b>

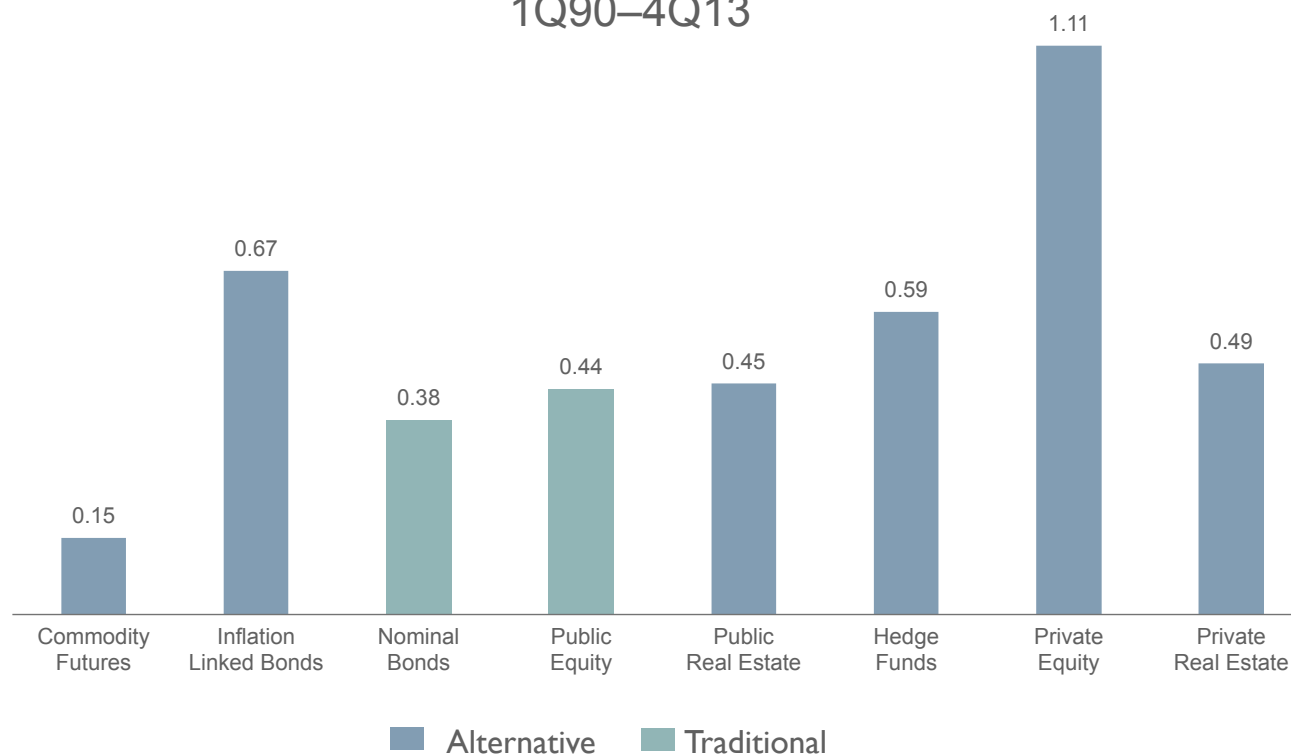
Note: Represents % of 49 consulting firms responding "yes" to the question  
Source: 2013 PIMCO Defined Contribution Consulting Support and Trends Survey (49 Respondents)

# Illiquid Investments – Adding Value To Portfolios

Potential Attributes	Hedge Funds	Private Real Estate	Private Equity
Potential For Additional Returns Versus Traditional Public Markets	✓		✓
Reduced Correlation to Traditional Equity and Bond Markets	✓	✓	
Reduced Overall Portfolio Volatility	✓	✓	✓
Absolute Return Potential Unrelated to Market Performance	✓		
Consistent Earnings Power with Regular Distributions		✓	

# Alternatives Can Improve Volatility-Adjusted Returns

**Sharpe Ratios**  
 1Q90–4Q13



■ Alternatives exhibited superior Sharpe Ratios

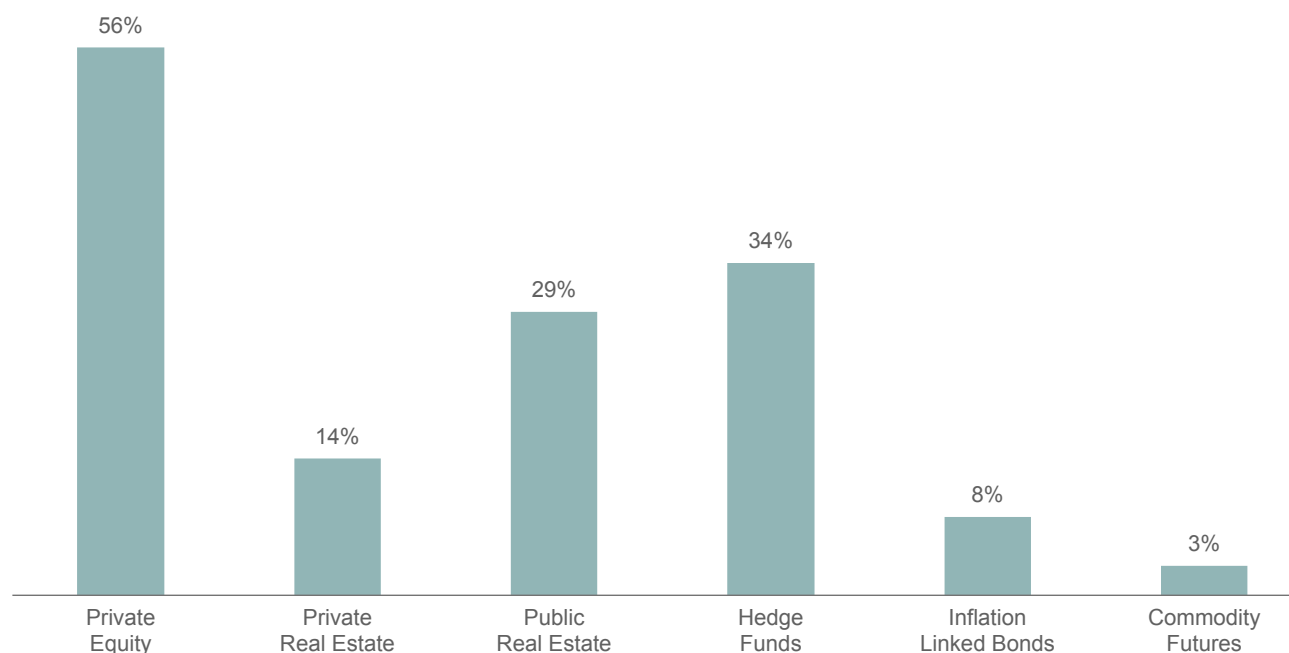
**Historical analysis and current estimates do not guarantee future results.**

Annualized Sharpe ratio = (arithmetic total return less 3-month T-Bill total return) / standard deviation of total return

Source: DJ-UBS, FTSE EPRA/NAREIT, HFRI, Cambridge Associates, Bloomberg Data Compiled by AllianceBernstein

# And Reduce Reliance On Market Beta

Percent of Return Explained by S&P 500 Index Return  
1Q90–4Q13



■ Reliance on equity markets cut by  $\frac{1}{2}$ ,  $\frac{2}{3}$ <sup>rd</sup>s, or altogether ... similar for reliance on bond markets

**Historical analysis and current estimates do not guarantee future results.**

Regression  $r^2$  from regression of investment total returns on S&P 500 total return

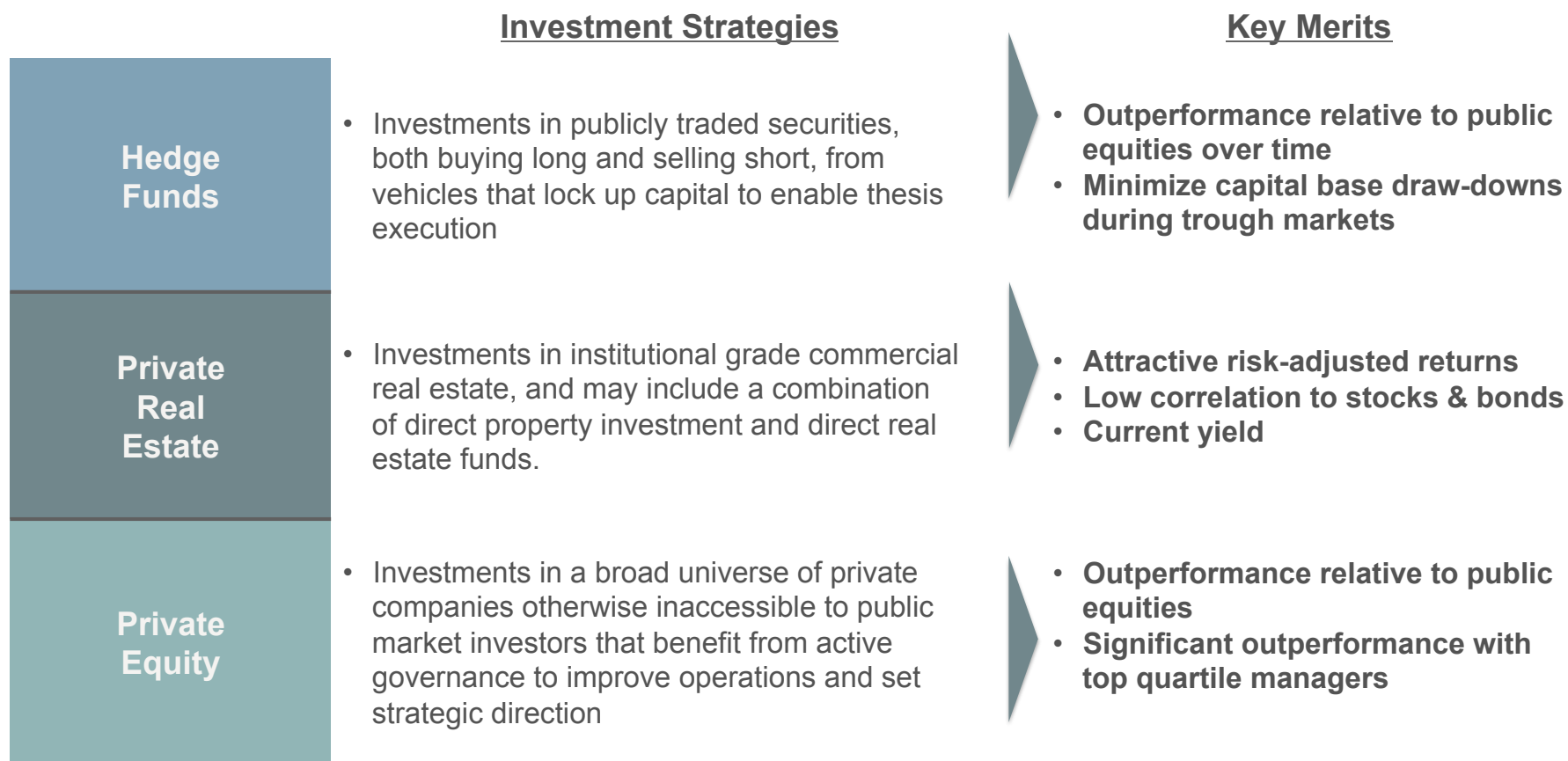
Source: DJ-UBS, FTSE EPRA/NAREIT, HFRI, Cambridge Associates, Bloomberg Compiled by AllianceBernstein



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## The Investment Case: Hedge Funds, Real Estate & Private Equity

# The Investment Case Overview: Merits Of Hedge Funds, Private Equity And Real Estate



- Given the active management nature of each illiquid strategy, the selection of managers is critical to delivering on the merits.

# Hedge Funds As A Distinct Asset Class

- Hedge fund industry assets currently stand at \$2.63 trillion<sup>1</sup>, with institutional investors (global pension funds, sovereign wealth funds, endowments and foundations) and high-net-worth and family offices as the primary contributors<sup>1</sup>.
- Expectations are that growth in the industry will remain strong in coming years and may build to record high levels, increasing to \$4.81 trillion by 2018”<sup>1</sup>
  - “Gone are the days when the sole attraction of hedge funds was the prospect of high-octane performance. Shaken by the global financial crisis and the extended period of market volatility and macroeconomic uncertainty that followed, investors are now seeking consistent, risk-adjusted returns that are uncorrelated to the market” – *McKinsey & Company*<sup>2</sup>
- Hedge fund strategies generally fall into four categories:
  - Tactical Trading: directional exposure to currencies, interest rates, commodities and equities
  - Equity Long/Short: bottom-up fundamentally-driven stock-pickers not managed to a benchmark
  - Event Driven: trade on corporate events such as bankruptcies, mergers or takeovers.
  - Relative Value: exploit mispricing of related assets and/or price convergence.

<sup>1</sup> Source: Citi Investor Services, May 2014, Opportunities and Challenges for Hedge Funds in the Coming Era of Optimization, Part 1: Changes Driven by the Investor Audience.

<sup>2</sup> Source: McKinsey & Company, Financial Services Practice, August 2014, The Trillion-Dollar Convergence: Capturing the Next Wave of Growth in Alternative Investments.

<sup>1</sup> Source: SIFM, June 30, 2010; World Federation of Exchanges for Equities, June 30, 2010; Journal of Real Estate Portfolio Management, August 2010.



# Hedge Funds: Sectors

	Tactical Trading	Equity Long/Short	Event Driven	Relative Value
<b>Characteristics</b>	Directional exposure to currencies, interest rates, commodities and equities	Bottom-up fundamentally-driven stock-pickers not managed to a benchmark	Trade on corporate events such as bankruptcies, mergers or takeovers	Exploit mispricing of related assets and/or price convergence
<b>Risk/Return Profile</b>	High volatility/ high return	Medium volatility/ medium return	Medium volatility/ medium return	Low volatility/ low return
<b>Liquidity</b>	High	High	Medium	Medium
<b>Key Risk</b>	Trend reversals; high drawdown risk	Equity market risk	Credit risk	Counterparty risk, systemic risk, left-tail risk
<b>Representative Strategies</b>	Price-based model Macro discretionary Managed futures	Global diversified Emerging markets long/ short	High yield/distressed Special situations Direct lending	Equity market neutral Volatility trading

For Illustrative Purposes Only.

This is not intended to be a complete list of sectors, characteristics, or risks. **IMPORTANT:** Alternative investments are subject to a variety of investment risks including the entire loss of the entire amount that is invested and are not suitable for all investors. Please refer to the "Additional Information" section for a discussion of such risks.

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# Hedge Funds: Investment Merits

## Potential for Outperformance

- Hedge funds have historically outperformed other asset classes over the long term

## Attractive Risk Profile

- Hedge funds may mitigate portfolio risk through lower beta and volatility, and reduced drawdown

## Differentiated Returns

- Hedge funds can offer access to differentiated returns, with their ability to vary beta and access strategy-specific return drivers

## Difficulty to Replicate

- Hedge fund returns are not easily replicated by stock/bond portfolios with similar risk/return profiles

## Potential for Consistent Alpha

- Alpha generation has remained strong over time and across strategies

## Risk Efficiency

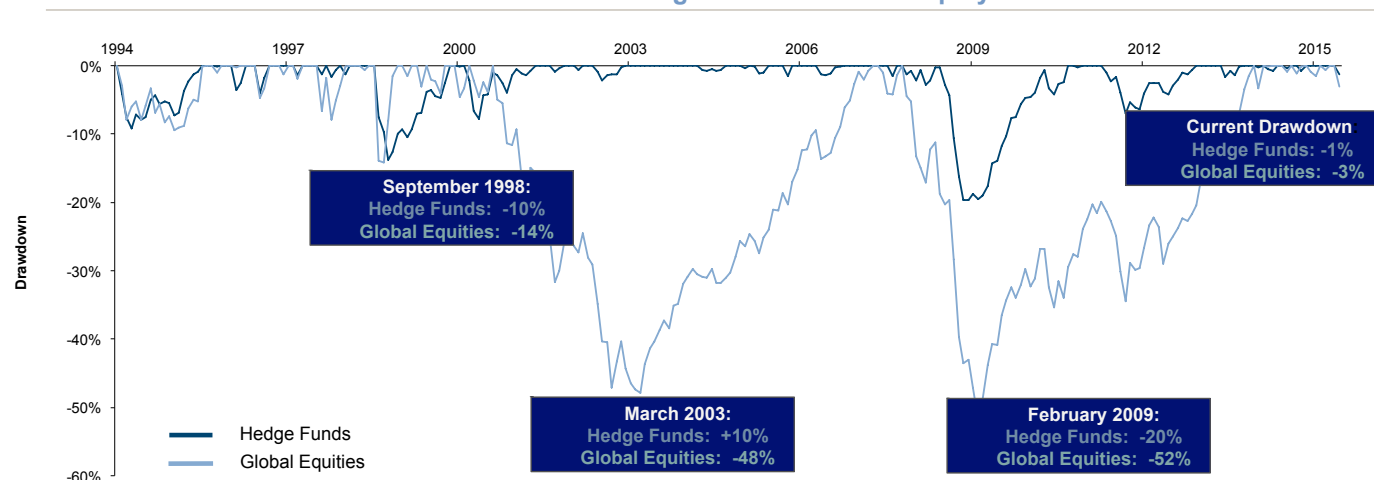
- Hedge funds have the potential to improve a portfolio's risk-adjusted returns

## Cost-Effective

- As a proportion of alpha generated, fees can be reasonable especially after negotiated terms

# Hedge funds: Historically have experienced smaller drawdowns and fewer months to recovery

Hedge Fund vs. Global Equity Drawdowns



- Hedge funds have generally experienced **lower maximum drawdowns** as well as lower drawdowns during times of market stress relative to global equities
- Hedge funds have generally required **fewer months to recover** from drawdowns than global equities

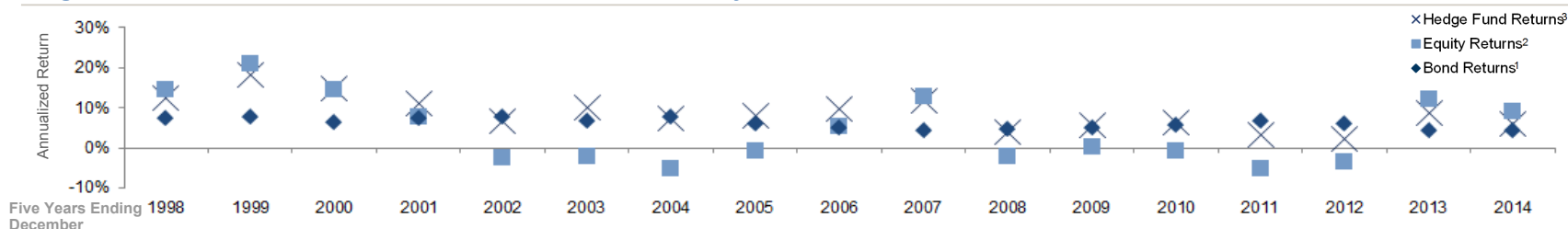
Hedge Fund Performance During Equity Market Drawdowns

Scenario Name	MSCI World Index Hedged USD				Dow Jones Credit Suisse Hedge Fund Index			
	Drawdown	Peak	Trough	Months Between Peaks	Drawdown	Peak	Trough	Months Between Peaks
The Financial Crisis-2008	-51.88%	Oct-07	Feb-09	75	-19.68%	Oct-07	Dec-08	36
Technology Meltdown-2000	-47.85%	Aug-00	Mar-03	81	-7.74%	Feb-00	May-00	16
Russian Debt Crisis-1998	-14.17%	Jul-98	Sep-98	6	-13.81%	Jul-98	Oct-98	17
Asian Crisis-1997	-7.89%	Jul-97	Oct-97	8	N/A	N/A	N/A	N/A
Tequila Crisis & Rate Hike-1994	-9.39%	Jan-94	Jan-95	20	-9.13%	Jan-94	Apr-94	19

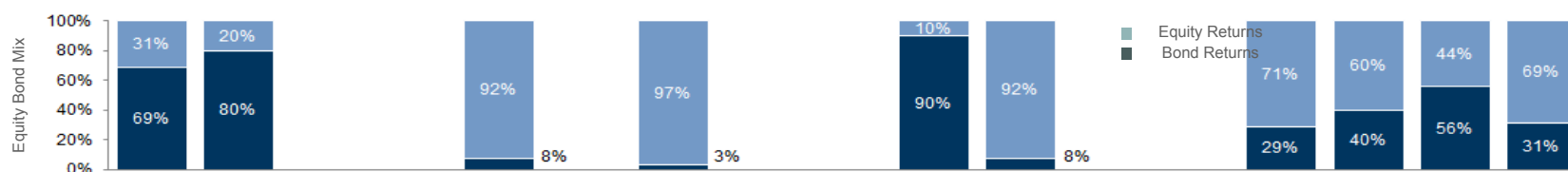
Source: PerTrac Indices Database, [www.msoidata.com](http://www.msoidata.com), [www.hedgeindex.com](http://www.hedgeindex.com). As of June 2015. Jan 1994 represents the inception date of the DJCS Hedge Fund Index. Hedge Fund Index is Dow Jones Credit Suisse Hedge Fund Index. Global Equities is MSCI World Index Hedged USD. Past performance does not guarantee future results, which may vary.

# Hedge funds have historically outperformed mimicking portfolios

## Hedge Funds have had Positive Annualized Performance Across All Five-year Time Periods Since 1994



## Equity/bond Portfolios Achieved Hedge Fund-equivalent Returns in Fewer than 60% of These Periods



## In Subsequent Five-year Periods, Previously Equivalent Equity/bond Portfolios Underperformed Hedge Funds

Subsequent Five-Year Returns	Jan-99- Dec-03	Jan-00- Dec-04	Jan-01- Dec-05	Jan-02- Dec-06	Jan-03- Dec-07	Jan-04- Dec-08	Jan-05- Dec-09	Jan-06- Dec-10	Jan-07- Dec-11	Jan-08- Dec-12	Jan-09- Dec-13	Jan-10- Dec-14
<b>Equity-Bond Mix<sup>4</sup></b>	<b>69%-31%</b>	<b>80%-20%</b>	<b>NA</b>	<b>NA</b>	<b>8%-92%</b>	<b>NA</b>	<b>3%-97%</b>	<b>NA</b>	<b>NA</b>	<b>90%-10%</b>	<b>8%-92%</b>	<b>N/A</b>
Ann. Return	0.75%	(2.58)%	NA	NA	5.10%	NA	4.86%	NA	NA	(2.37)%	5.13%	NA
Ann. Volatility	10.80	11.82	NA	NA	3.26	NA	3.71	NA	NA	16.20	2.83	NA
Max Drawdown	(30.47)	(37.08)	NA	NA	(2.91)	NA	(4.57)	NA	NA	(42.02)	(3.31)	NA
<b>Hedge Funds<sup>3</sup></b>												
Ann. Return	9.96%	7.38%	7.94%	9.83%	11.79%	4.12%	5.76%	6.41%	3.16%	2.25%	8.66%	5.88%
Ann. Volatility	6.82	5.31	3.19	3.58	3.91	6.67	6.98	7.26	7.38	7.15	4.95	4.52
Max Drawdown	(7.74)	(7.74)	(2.18)	(2.18)	(1.53)	19.68	(19.68)	(19.68)	(19.68)	(19.49)	(6.97)	(6.97)

As of December 2014. Benchmark/Source: <sup>1</sup>Barclays Aggregate Bond Index/Bloomberg. <sup>2</sup>MSCI World Index Hedged USD/Bloomberg. <sup>3</sup>Dow Jones Credit Suisse Hedge Fund Index/Bloomberg. <sup>4</sup>The equity-bond mix was selected to represent historical performance for each specified period of time and is weighted according to the equity/bond mix noted. The hypothetical historical returns were created with the benefit of hindsight using the percentage allocations indicated above. Any changes will have an impact on the hypothetical historical performance results, which could be material. Hypothetical performance results have many inherent limitations and no representation is being made that any investor will, or is likely to achieve, performance similar to that shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved. These examples are for illustrative purposes only and are not actual results. If any assumptions used do not prove to be true, results may vary substantially. Jan 1994 represents the inception date of the DJCS Hedge Fund Index. Past performance does not guarantee future results, which may vary.

# Real Estate: As A Distinct Asset Class

Commercial real estate represents close to 19% of the investment universe in the U.S. market vs. Equities (26%) and Bonds (55%).<sup>1</sup>

“Real estate is not an alternative to stocks and bonds — it is a fundamental asset class that should be included within every diversified portfolio. Equity, fixed income, cash and real estate...are the basic asset classes that must be held within a diversified portfolio.” — Mark J.P. Anson, *Handbook of Alternative Assets*

This translates into approximately \$6.6 trillion of assets, accessed through: direct property acquisition, direct property funds, and listed real estate securities (i.e. publicly traded REITs). Direct ownership and direct funds make up 90% of the universe while listed REITs account for 10%

Commercial real estate strategies generally fall into three categories:

1. Core and core-plus: low vacancy, high-quality, cash-flowing properties in core markets, current income focus, lower leverage.
2. Value-Add: 50-85% leased, some repositioning required, core markets, moderate leverage.
3. Opportunistic: unconstrained focus on appreciation, possibly no current income, development oriented, higher leverage.

For DC Plans, the more common offerings for consideration are listed REITs and well-sponsored, direct core real estate funds.

<sup>1</sup> Source: SIFM, June 30, 2010; World Federation of Exchanges for Equities, June 30, 2010; Journal of Real Estate Portfolio Management, August 2010.

# Real Estate: Merits Of Accessed Via Direct Funds

## Diversification

- Low correlation with stocks and bonds can dampen portfolio volatility.

## Core Real Estate (CRE) provides strong, steady current income

- The NCREIF ODCE Index, consisting of ~20 open-end core commercial real estate funds, has had an annualized income return of 7.50% since its inception in 1978.
- Approximately 80% of CRE returns come from income, which is generated by contractual rents.
- Meets current consumption needs of retirees and other income-oriented investors.
- Can be used to rebalance portfolio, offsetting illiquidity.

## Inflation Protection

- Returns on the ODCE Index have historically outpaced inflation, protecting portfolios against loss of purchasing power.
- Real estate is a hard asset that tends to appreciate in a recovering economy and may offer protection if interest rates rise

## Downside Protection

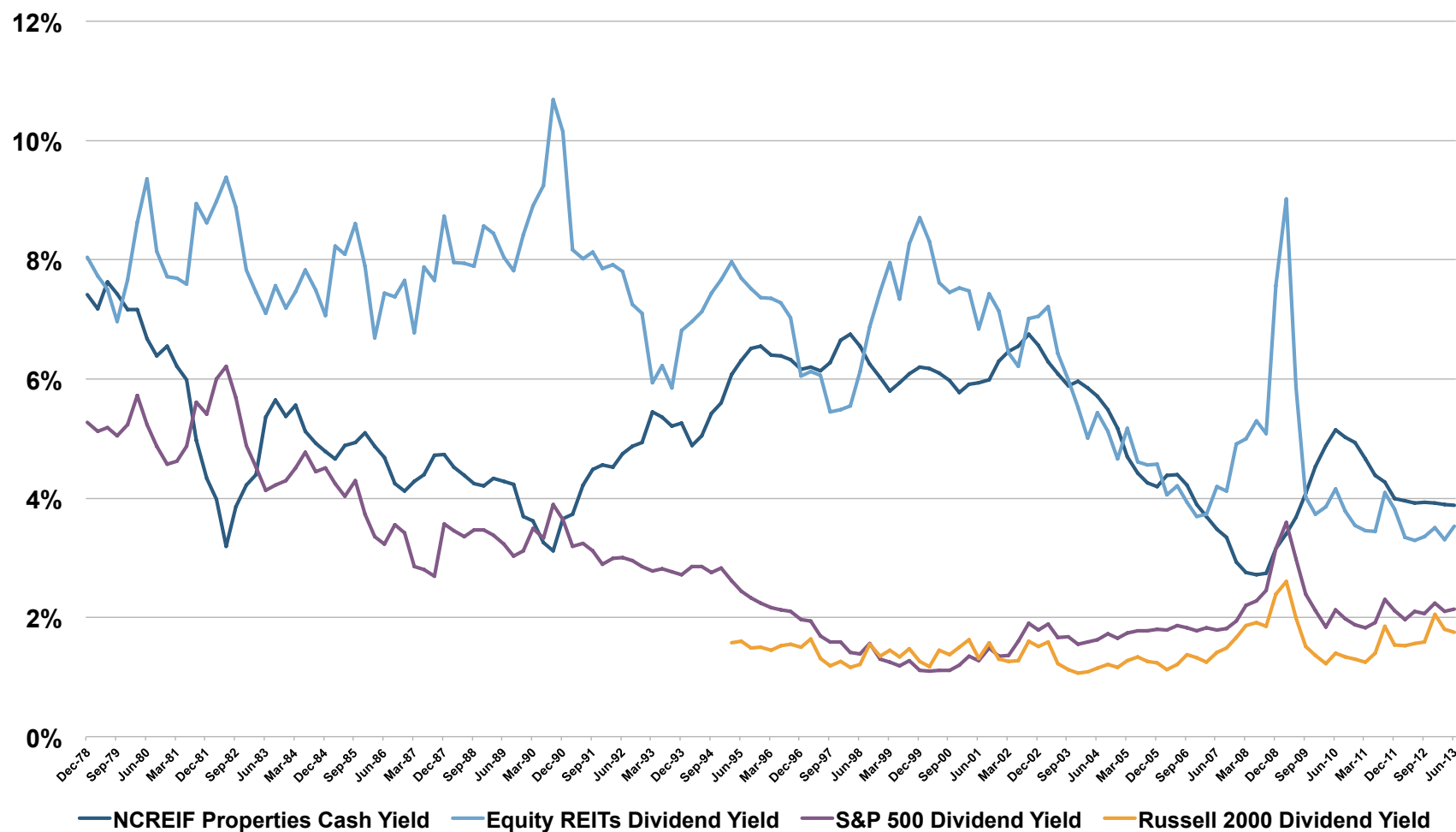
- Since its inception in 1978, direct commercial real estate funds represented by the ODCE Index have experienced fewer quarters of negative total returns (16) compared to the S&P 500 (42) and the Barclays U.S. Aggregate Bond Index (33).

# Real Estate: Potential for Growth with Less Volatility, Low Correlations

HISTORICAL PERFORMANCE (15 YEARS ENDING 4Q2014)								
	Private RE (NFI-ODCE)	Equity REITS	Private: REITS 60:40	Private: REITS 70:30	Private: REITS 80:20	S&P 500	Small Cap Stocks	Bonds
<b>Avg. Annual Return (%)</b>	7.9%	10.5%	9.6%	9.3%	8.9%	4.2%	7.4%	5.7%
<b>Std. Annual Deviation (%)</b>	7.3%	20.0%	11.7%	11.3%	11.3%	16.9%	21.4%	3.6%
<b>Correlation w Private RE</b>	1.00	0.22	0.59	0.71	0.84	0.18	0.15	(0.14)
<b>Correlation w Equity REITs</b>	0.22	1.00	0.92	0.84	0.71	0.65	0.72	(0.02)
<b># Quarters with Neg. TRs</b>	6	18	12	8	8	22	22	16

Sources: As of December 31, 2014; NFI-ODCE gross returns from NCREIF; Equity REIT returns from FTSE/ NAREIT; S&P 500 returns from Standard and Poor's; Small Cap Stocks returns from Russell 2000 TR Index; Bond returns from Barclays U.S. Aggregate Bond Index; standard deviations are based on annual returns; correlations are based on quarterly returns.

# Real Estate: With Strong Yield Potential



Source: NCREIF, Bloomberg, NAREIT, as of June 30, 2013



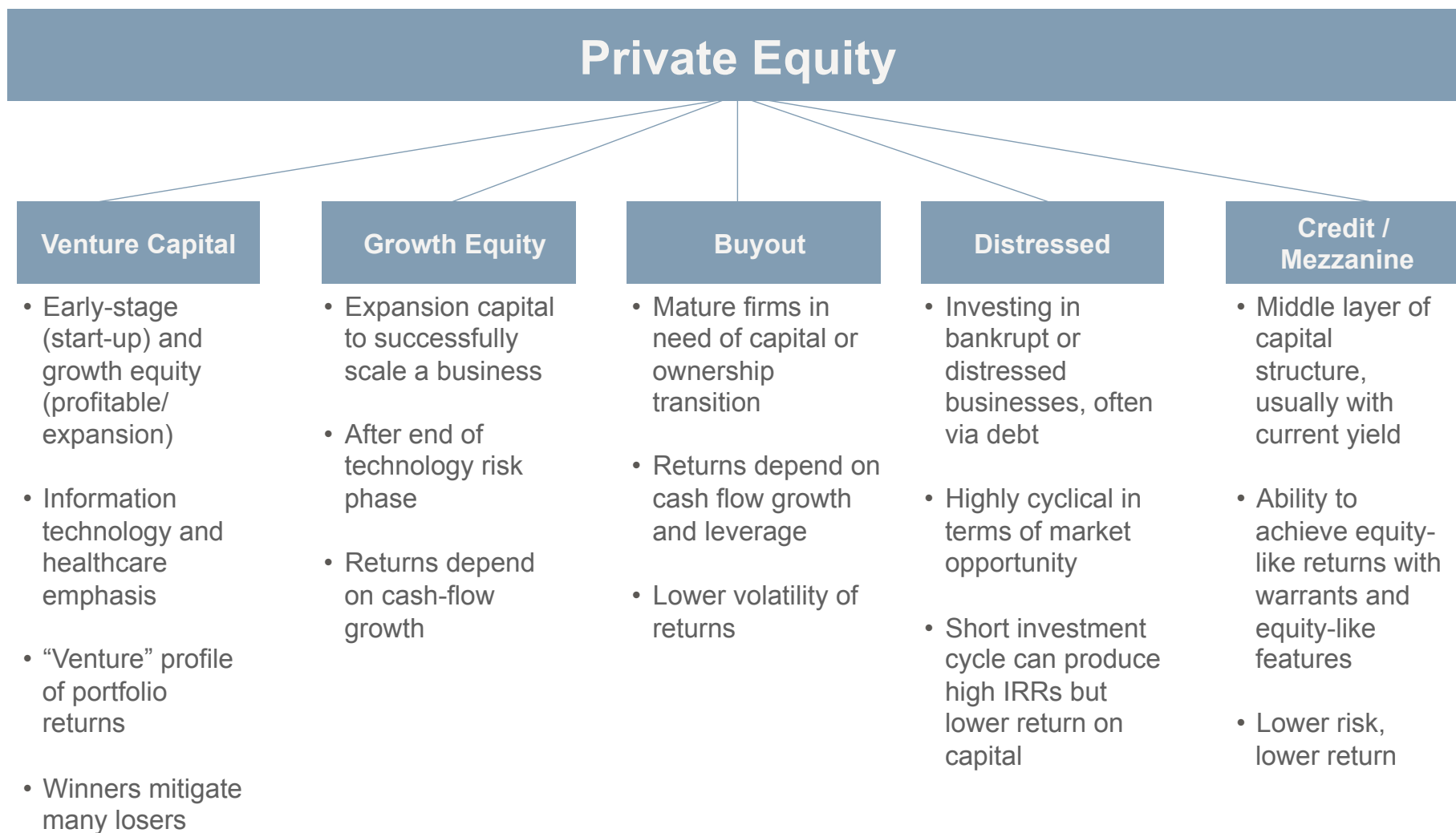
## Private Equity: As A Distinct Asset Class

- Private equity AUM comprises approximately \$3.5 trillion globally<sup>1</sup> and
- US-based pension funds target allocation of 8.3% to private equity<sup>2</sup>
- Private equity investments are predominately available through funds consisting of a portfolio of underlying private investments overseen by the general partner of the fund
- Private equity consists of investments in private companies in equity securities and more recently also includes investments in mezzanine and senior loan securities in private companies

<sup>1</sup> As of June 2013 based on unrealized value of portfolio assets and uncalled commitments (Source: Prequin, *The 2014 Global Private Equity Report*)

<sup>2</sup> As of October 2013 (Source: *Prequin Investor Intelligence* press release, October 2013)

# Private Equity: Investment Sub-Strategies



# Private Equity: Investment Merits

## Diversification of Investment Strategies

- Access to universe of companies not otherwise available to public market investors
- Governance, control structures, and incentive alignment that drives value creation
- Value creation through operational improvements, strategic direction-setting, and financial engineering

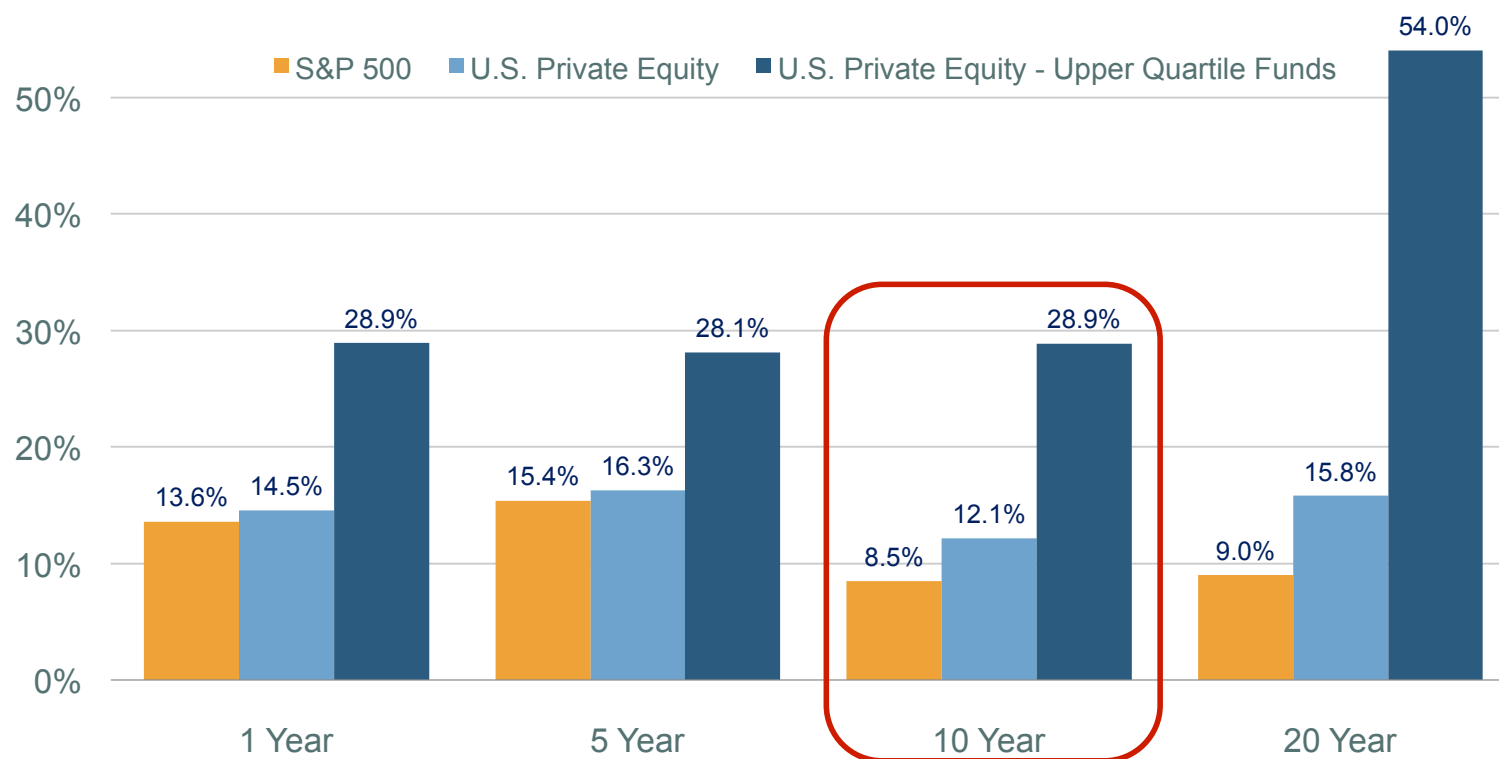
## Strong Outperformance Potential

- Demonstrated outperformance relative to public markets (industry average and top-quartile)
- Proven track record of delivering value through development and sale of companies

## Volatility Smoothing Benefit to Portfolio

- Muted volatility due to multiple valuation methodologies in fair market value determination
- Quarterly valuation lag (if not daily valued) results in dampening effect on overall portfolio volatility

# Private Equity: Potential For Outperformance



- Upper quartile funds significantly outperform the private equity index and public markets.
- Accessing high quality managers is key to long-term success in private equity.

As of December 31, 2014

Source: Cambridge Associates through ThomsonOne. The U.S. Private Equity return is a pooled IRR based on the combined cash flows of all U.S. private equity funds in the benchmark The U.S. Private Equity – Upper Quartile Funds return is a pooled IRR based on the combined cash flows for the U.S. private equity funds in the benchmark that achieved upper quartile performance. Public market comparison (S&P 500 Composite Total Return) also provided by ThomsonOne based on a methodology of buying and selling the index with the same timing of cash flows as the All U.S. Private Equity return. The securities comprising the public market benchmarks have substantially different characteristics than the private equity benchmarks, and the comparison is provided for illustrative purposes only. Investors should bear in mind that past performance is not necessarily indicative of future results, and there can be no assurance that future private equity investments will achieve similar results.



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## Fiduciary Considerations

## Fiduciary Considerations

- DC plans - same as DB plans - look to ERISA's fiduciary standards.
- ERISA's prudence standard requires "appropriate consideration" of the overall portfolio, the risk of loss and opportunity for gain, liquidity and cash flow needs.
- Diversification is required unless clearly prudent not to do so.
- Procedural prudence is key and assistance is available!

## Fiduciary Considerations: Legal Structures Matter

- When implementing alternatives in DC plans consider including alternatives in custom or white label investment options:
  - Alternatives may be more readily added to the mix.
  - Can allocate to core investment options OR other investments.
  - Cash flow to illiquid investments can be managed using a liquidity “buffer.”
  - As custom QDIA options grow in size, support for including alternatives also increases.

## DIY, Seek Assistance Or Delegate: A Checklist For Action

- ✓ Create blueprint for custom or white label investment option.
- ✓ Conduct gap analysis of legal risks and available tools, such as legal structuring, contracting, disclosures and insurance.
- ✓ DIY, use a 3(21) co-fiduciary, or delegate to a 3(38)/OCIO manager.
- ✓ The legal structure can also be “delegated”:
  - Consider existing liquid registered fund or other options.
  - Managers can create “funds of one” custom solutions.
- ✓ Update fiduciary governance.
- ✓ Update participant disclosures: Communications providers can help.
- ✓ Contract documentation can help manage fiduciary risks.





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## **Plan Sponsor Considerations: Addressing Operational Considerations**

## Three Operational Considerations

1. Fair Market Value
2. Liquidity Management
3. Management Fees
4. Other Considerations for Early Adopters

# Fair Market Value: Key Considerations

*Historically, some alternatives have provided monthly or quarterly valuations with some FMV adjustments for daily.*

	Hedge Funds	Direct Real Estate	Private Equity
<b>Typical Valuation Period</b>	Daily, weekly, biweekly, monthly, or quarterly depending on the liquidity of holdings	Quarterly with daily adjusted valuation	Quarterly or monthly
<b>Underlying Holdings</b>	Public stock or derivatives or in some cases private securities	Ownership of buildings	Equity in private companies
<b>Price-Setting Methodology</b>	<p>Independent fund administrator vital to strike the Fund NAV based on following:</p> <ul style="list-style-type: none"> <li>• Liquid securities are market-to-market</li> <li>• Thinly-traded OTC securities are marked based on proprietary models or third party valuation service</li> </ul>	<p>Quarterly appraisals are daily adjusted based on estimate of net income and appreciation over the quarter</p> <ul style="list-style-type: none"> <li>• Typically 80% due to income (predictable based on rent and leases)</li> <li>• Typically 20% due to appreciation (Estimate of value that changes throughout as appraisals available)</li> <li>• Additional cash flow affects daily NAV for property purchases, sales and capital expenditures</li> <li>• Periodic adjustment of accruals vs. actuals to reconcile / true-up</li> </ul>	<p>Fair market value determined by investment manager in accordance with FAS 157</p> <ul style="list-style-type: none"> <li>• Underlying company equity fair value determined based on trading comps, precedent transactions, and/or discounted cash flows</li> <li>• Regular adjustments for cash flows reflecting capital calls from and distributions to limited partners</li> </ul>
<b>Third-Party Verification</b>	Independent accounting firm approves valuation methodology and provides fair valuation opinion letter	Independent valuation firm provides quarterly signed appraisals	Independent accounting firm provides annual audit and appraises methodology
<b>Investment Vehicle</b>	Limited Partnership Interests Listed Vehicles	CITs Non-Listed REITs Separate Accounts	Limited Partnership Interests Separate Accounts Listed Vehicles

# Fair Market Value: Context And Market Solutions

## Context

- Transparent valuation methodology needs to be established, documented, and disclosed for both liquid and illiquid assets, regardless of frequency: three third-party service provider options available:
  - Appraiser (provides independent appraisals to managers)
  - Oversight manager (works with manager to provide appraisals and opine on method)
  - Fiduciary manager (independently determines valuation)
- Best practices for fair valuation processes in publicly-traded mutual funds involve the use of internal committees to review security prices due to “trigger” events or limited market price availability such as:
  - Large move in domestic markets prior to close of US market
  - Lack of current market pricing data for a security
  - Thinly-traded securities or private securities held in mutual funds
- Asset classes that commonly use fair valuation to arrive at daily NAV include:
  - Emerging market debt and equity, High yield bonds, Floating rate notes, Tax Free bonds, International bonds, and International / Global equity

## Market Solutions

- Methodologies have already been developed to increase the frequency of valuation in alternative asset classes, such as in direct real estate.
- Transparent fully-disclosed adjusted daily methodology is preferred.
  - Stale pricing is an option but less attractive than “fair value” approach
  - Methodology balances out for long term investors

# Liquidity: Key Considerations

*Some alternative investments have lock-up periods or limited liquidity on a monthly or quarterly basis.*

	Hedge Funds	Direct Real Estate	Private Equity
<b>Regular Redemption Liquidity</b>	<p>Subscriptions are generally executed monthly, while redemptions vary and are often driven by the type of strategy</p> <ul style="list-style-type: none"> <li>• Some funds allow monthly or quarterly redemptions</li> <li>• Other funds require lock of 1-3 years, which may be “hard” or “soft” (i.e., penalty fee)</li> <li>• Gates are often used in addition to lock-ups (i.e., only % redeemed each period)</li> </ul>	<p>Transactions, subscriptions, and redemptions are generally executed either monthly or quarterly</p> <ul style="list-style-type: none"> <li>• Some funds have liquidity gates</li> </ul>	<ul style="list-style-type: none"> <li>• Regular distributions inherent from the underlying asset class through company sales, recapitalizations, public offerings, and dividends</li> <li>• Liquidity influenced through program objectives and portfolio construction (i.e., cash flow profiles vary by equity or credit strategy and can be designed to meet investor’s objectives)</li> </ul>
<b>Liquidity Capacity Within the Typical Vehicles</b>	<ul style="list-style-type: none"> <li>• Managers will hold cash and/or invest in more liquid securities, such as treasuries and indices</li> </ul>	<ul style="list-style-type: none"> <li>• Lines of credit as an additional layer of liquidity</li> <li>• Managers add REITs or other liquid real estate securities to the private portfolio to provide a level of liquidity that can range from 0-40%</li> </ul>	<ul style="list-style-type: none"> <li>• Secondary sales of LP interests (at 5-10% discount to NAV)</li> </ul>
<b>“Run on the Bank” Liquidity</b>	Waiting period based on gates	Backstops and guarantees	Secondary sales of LP interest (at up to 50%+ discount to NAV)

# Liquidity: Context And Market Solutions

## Context

- DOL suggests balancing diversification, return potential, and liquidity in choosing investments<sup>1</sup>
- Liquidity limitations already exist today in some traditional asset classes in DC plans.
  - Plans may limit trading to quarterly and still be 404(c) compliant
  - There are underlying liquidity limitations in many common investments (money funds, stable value and annuities)
- In severe downturns, pricing on public securities may fall as much as illiquid counterparts

## Market Solutions

- Investment managers and regulators can gain comfort in stress testing market corrections to illustrate the impact on returns (e.g., as is done in Australia).
- Run on the bank scenarios can be managed through liquidity schedules backstopped by additional structure built into the vehicles such as insurance wrap and gates.
- Liquid versions of alternative strategies, particularly hedge funds, are being developed.
- Today access to illiquid asset classes typically restricted to the asset allocation default portfolio due to the greater predictability of flows

1. Source: DOL citation

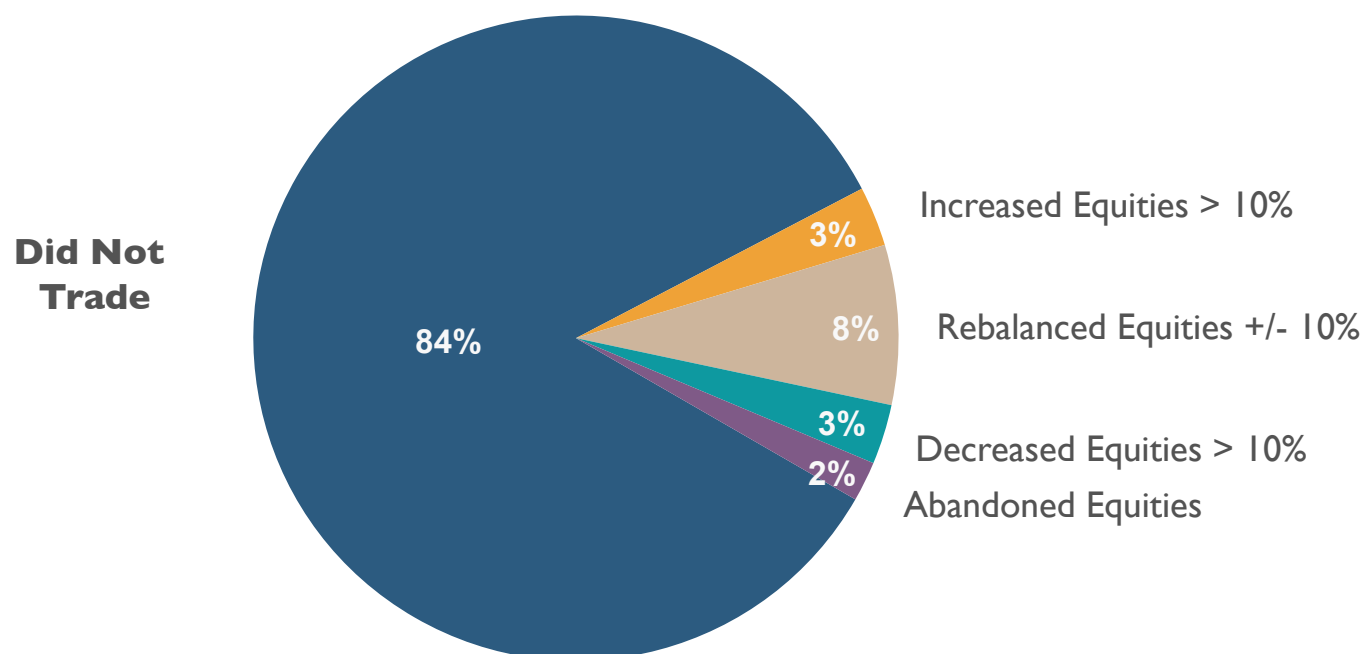
# Liquidity: Trading Availability Today

	Hedge Funds	Real Estate	Private Equity
<b>Normal Subscriptions</b>	Monthly or Quarterly	Monthly or Quarterly	Multi-Year Fund Commitments and Capital Calls
<b>Normal Redemptions</b>	Monthly or Quarterly	Monthly or Quarterly	None
<b>Redemption Management</b>	Possible Lock-Up Period	REIT Portfolio Used as Liquidity Buffer	Secondary Sales At Discount
<b>“Unusual” Redemptions</b>	Gates	Gates	Secondary Sales At Discount Priced By Market Demand

**Greatest Plan Sponsor Concern:  
“Run On The Bank”**

# Liquidity: Participants Did Not Trade During The Crisis

## Vanguard 2008 DC Participant Trading Experience



Source: Vanguard March 2009 Research Note



# Investment Fees: Key Considerations

*Some alternative investment options include performance-based fees in addition to asset based fees, an approach that is not historically part of the DC fee structure*

	Hedge Funds	Direct Real Estate	Private Equity
<b>Typical Management Fees</b>	Traditionally 2% of asset value	Core real estate: 1.10% - 1.25% of net asset value	Typically 2% of capital commitments
<b>Typical Performance Fees</b>	Historically, manager collects up to 20% of gains (though flat fee arrangements are being introduced)	Manager earns a share of the annualized total return exceeding a fixed “hurdle” rate (e.g. 6-7%); or a share of annualized property net income growth over a certain amount (e.g. 5%)	Manager shares in % of profits once preferred return (of typically 6% - 8% IRR) is distributed to investors
<b>Measurement and Accrual of Performance Fees</b>	Annual, subject to high water mark that must be surpassed to earn future performance fees	<ul style="list-style-type: none"> <li>• Accrued daily or monthly into NAV once hurdle rate of return achieved by investors</li> <li>• Distributed annually; may have an NAV high watermark that must be surpassed in future years to earn performance fees</li> </ul>	<ul style="list-style-type: none"> <li>• Measured over life of fund</li> <li>• Accrued quarterly in capital accounts with catch up once preferred return is achieved</li> <li>• Distributed once investors have received cost basis throughout the life of the fund (subject to clawback provisions, which seldom occur in practice)</li> </ul>

# Investment Fees: Context And Market Solutions

## Context

- The all-in fees for alternatives is generally higher than standard public equity or fixed income investments; however, superior net-of-fee performance or lower volatility may offset the higher fees.
- Some investment vehicles developed for the DC or retail investors have modified, restructured or eliminated performance fees.

## Market Solutions

- While all-in fees may be multi-layered, mutual fund disclosure rules, which DOL points to, present good examples for rolling up and estimating fees.
- Fee estimates may be based on the prior year and historical performance.
- Fee disclosures can be addressed by providers.



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## Case Studies of Successful Implementations

# Case Studies Included In Project

Plan Sponsor	Description	Alternatives Utilized	Interesting Issues Addressed
<b>Intel</b>	Introduction of alternatives into custom target-date strategy	Hedge Funds Commodities Illiquid Fixed Income	<ul style="list-style-type: none"> <li>• Portfolio construction</li> <li>• Valuation approach</li> <li>• Liquidity management</li> <li>• Committee governance</li> </ul>
<b>H-E-B</b>	Custom risk-based portfolios with 20% allocation to illiquid assets	Private Equity Hedge Funds Private Real Estate Private Debt	<ul style="list-style-type: none"> <li>• Quarterly withdrawals</li> <li>• Daily valuation “exit price”</li> <li>• Cash flow management</li> <li>• Portfolio volatility impact</li> </ul>
<b>Washington State</b>	Total Allocation Portfolio (TAP) most popular option in State’s hybrid retirement plan	TAP consists of units of the State’s DB plan, which has a 43% allocation to alternatives	<ul style="list-style-type: none"> <li>• Monthly access to funds</li> <li>• Notification/valuation process</li> <li>• Participant popularity</li> <li>• Long-term liquidity challenges</li> </ul>
<b>SunSuper (Australia)</b>	Allocation of alternatives within pre-blended target-risk portfolios	Private Equity Real Estate Hedge Funds Infrastructure	<ul style="list-style-type: none"> <li>• Valuation methodology</li> <li>• Participant behavior</li> <li>• Risk governance</li> <li>• GFC liquidity management</li> </ul>

# Intel Corporation – Case Study Introduction



## Plan Snapshot

- Leading California technology company
- \$15B combined across two DC plans (a 401K and a profit sharing plan)
- ~50,000 active participants
- Custom target-date funds as default in 401(k) plan
- Global Diversified Fund (GDF) as default in profit sharing plan, also offered as option in 401(k) Plan
- Multi-manager white label core asset class options also offered in 401(k)
- Illiquid assets used in target-date portfolios and global diversified fund
  - Hedge funds
  - Private real estate (GDF Only)
  - Private energy (GDF Only)
  - Credit strategies (GDF Only)
  - Private equity (GDF Only)

## Custom TDF Plan History

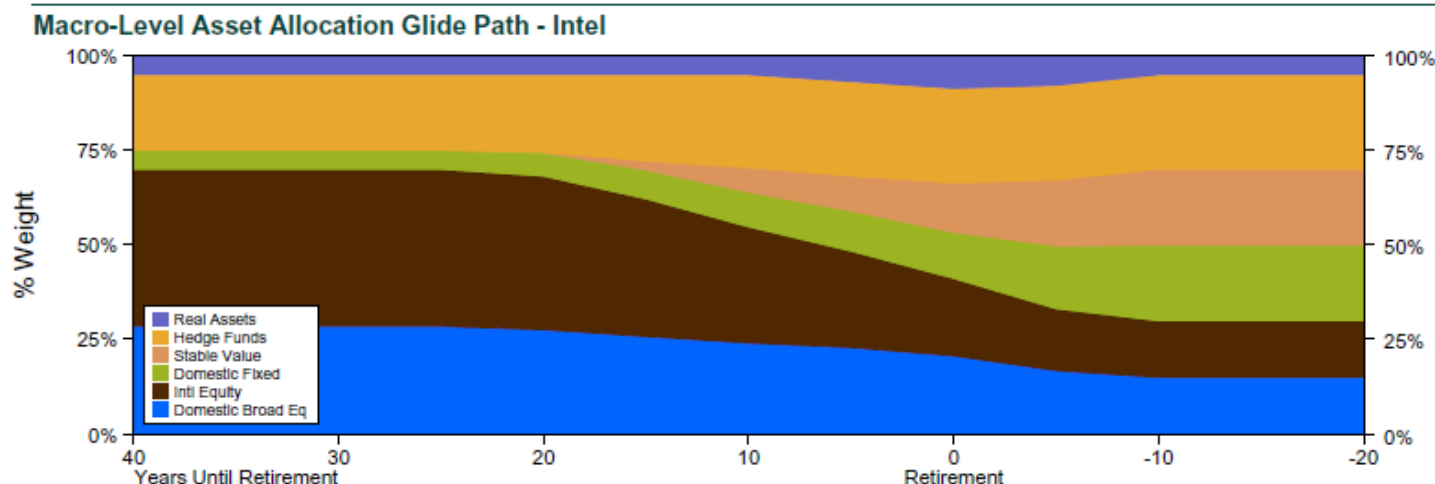
- 2004: Launched custom TDF (all passive)
- 2007: Introduced active management and hedge funds
- 2015: ~ 20% in hedge funds

## Global Diversified Fund History

- Intent is to provide a defined benefit-like portfolio option for plan participants
- 2006: Introduced alternatives including up to 10% target allocation in private equity, 5% target allocation in private real assets, and 5% in hedge funds.
- 2015: 25% in hedge funds, portfolio is at its target allocation to private alternatives.

# Intel – Illiquidity Management

## Intel Target Date Funds



### Valuation

- Plan provides daily valuation
- Custodian incorporates most recent weekly/monthly/quarterly pricing on illiquid assets, updated daily based on cash flows
- Considered fair as new pricing is rotated in by managers on a regular basis
- Recordkeeper posts NAVs daily

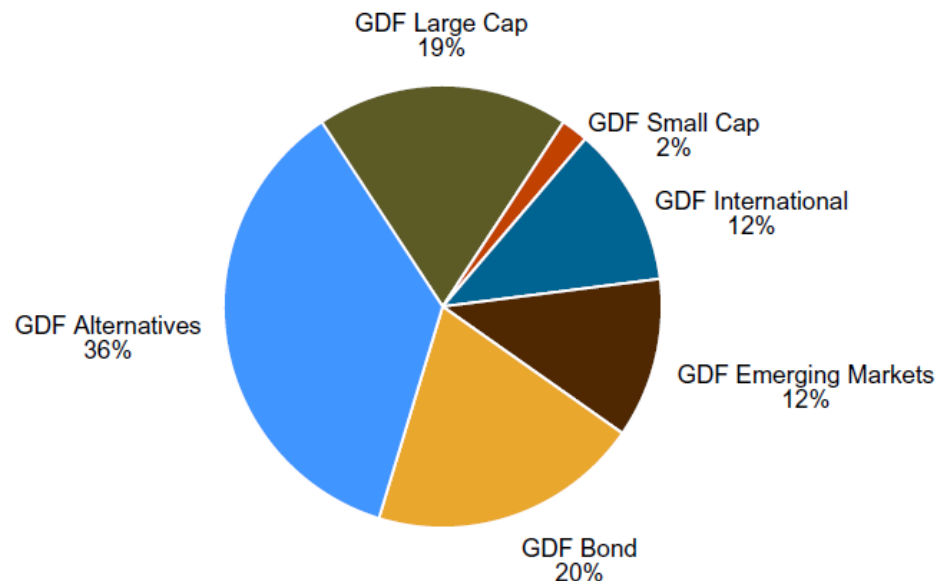
### Liquidity

- Daily trading by participants
- Intel manages liquidity through liquid asset classes
- Illiquid holdings balanced across all TDF portfolios; transactions done infrequently

# Intel – Illiquidity Management

## Global Diversified Fund

### Target Asset Allocation



### Valuation and Liquidity

- Managed similar to target date fund portfolios
- Alternatives sleeve in Global Diversified Fund includes allocation to private equity, private real estate, private debt and private energy in addition to hedge funds

## Intel – Experience And Learning

- Hedge fund diversifiers added post Global Financial Crisis
- Excellent risk-adjusted and peer-relative returns
- Value to portfolio yet to play out – difficult for participants to experience benefits of lower volatility
- Communications challenge given strong performance of global equity indices
- Value of more expensive alternatives needs to be justified to participants – a hot button in this environment



# H-E-B – Case Study Introduction



## Plan Snapshot

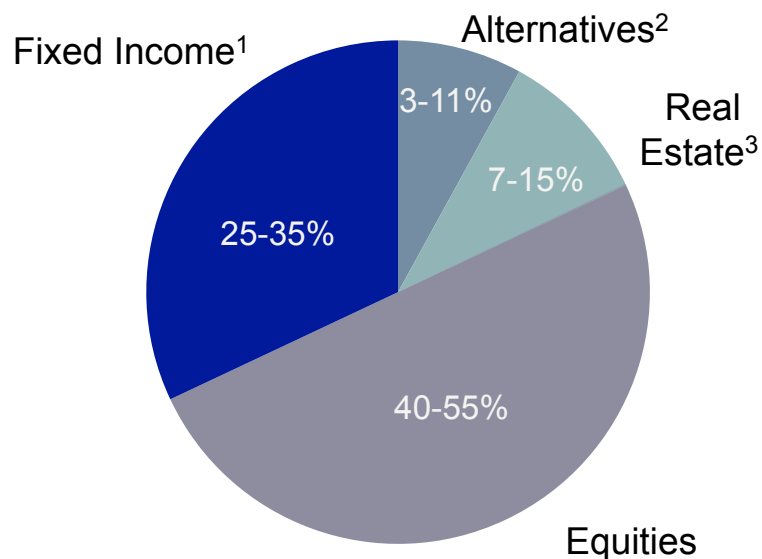
- San Antonio Grocery Retailer
- \$1.8 B 401k Plan
- 55,000 Participants
- Three Custom Risk-Based Funds Hold 80% of Plan Assets (Moderate Most Popular)
- Only 4 Additional Core Options
- Participants Have Quarterly Access To Funds
- On Average, 20% of Risk-Based Funds Invested in Illiquid Assets
  - Private Equity
  - Hedge Funds
  - Private Real Estate
  - Private Debt (Bank Loans and High Yield)

## Company History

- Founded in 1905
- Howard E. Butt Took Over in 1919
- 12<sup>th</sup> Largest Privately Owned U.S. Firm and Largest Private Company in Texas
- 300 Stores Primarily In San Antonio, Austin and Houston Markets
- Also Manufactures Food Products Under the H-E-B Label
- Company Is Known For Charitable Activities, Donating 5% of Pre-Tax Earnings

# H-E-B – Illiquidity Management

## Moderate Balanced Fund Allocation



1. Public and private debt
2. Hedge funds and private equity
3. REITs and private real estate

## Valuation

- Plan provides daily valuation
- Acts as “exit pricing” for participant loans or withdrawals at quarter end
- Daily NAVs for illiquid assets set by adjusting last known monthly or quarterly valuation for cash flows
- NAVs communicated to recordkeeper daily

## Liquidity

- Participant trades executed quarterly at the “as of” pricing of when trade was entered
- H-E-B manages liquidity in risk-based funds by keeping illiquid allocations under 25% and managing flows through liquid assets

## H-E-B – Experience And Learning

- Plan never moved to daily trading environment
- Support from management for long-term perspective when designing participant investment options
- Excellent relative performance during financial crisis
- Focus on risk-adjusted returns (reduced volatility) when measuring performance against peers
- Plan works closely with custodian to estimate daily price of illiquid holdings to fairly value transactions

# Washington State – Case Study Introduction



## Plan Snapshot

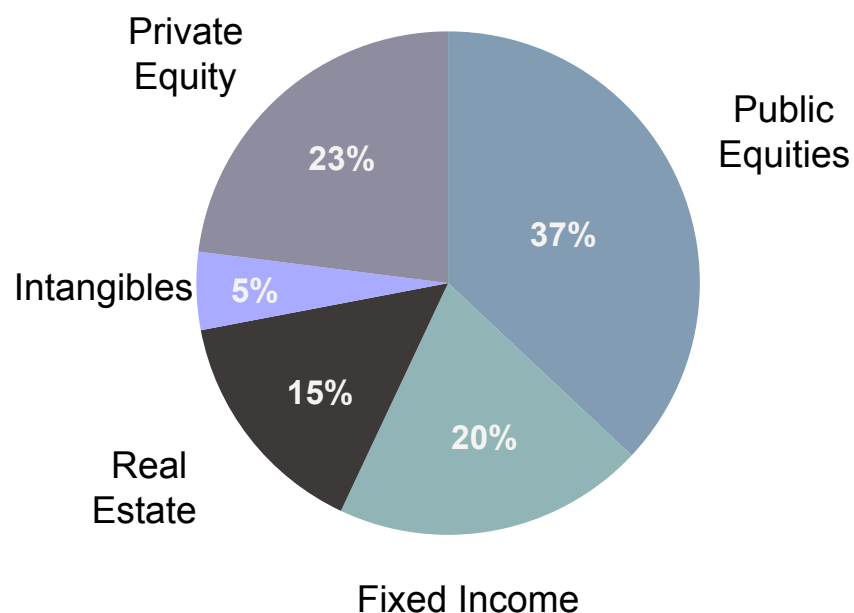
- \$10.8 B Hybrid Plan As An Option for New State of Washington Employees
- 298,000 Active Participants (All Plans)
- Custom Target-Date Funds As relatively New Default (2008)
- 22 Core Options
- But the Total Allocation Portfolio (“TAP”) – Units of the State’s DB Plan – Remains Most Heavily Used Investment Option
  - Over 50% of plan assets
  - Typically 100% of a participant’s account
  - Despite notice requirements and monthly access and trading limitations

## Plan History

- Hybrid “Plan 3” Added As Option To Traditional DB Plan For New Employees
- Hybrid Plan Used As The Default
  - 1% x years service x final pay
  - Plus member-funded 401(a) contribution
- However Access To DB Investments Maintained Through “TAP” Option
- Supplemental 457 Plan Available As Well

# Washington State – Illiquidity Management

## “Total Allocation Portfolio”



## Valuation

- “TAP” (units of state DB plan) valued 10<sup>th</sup> business day of each month
- Liquidated participant assets go through a “true up” process before distribution

## Liquidity

- Units accessible/transferable at month end
- Two week notice requirement to estimate liquidity requirements
- Liquidated funds held in money market fund
- Participant redemption distributed next month end following valuation of TAP units

## Washington State – Experience And Learning



- TAP remains heavily utilized as an investment option despite limited liquidity and notice requirements
- Providing liquidity to the State's DB portfolio is not a significant issue today as the TAP portfolio is quite small relative to defined benefit plan
- As the hybrid plan grows, liquidity management will become more difficult – the reason for introducing custom target-date portfolios as the default

# SunSuper – Case Study Introduction



## Plan Snapshot

- AUS\$32 B Multi-Industry Superannuation Fund
- Based in Brisbane, Australia
- 90,000 Employers, 1.1 Million Members
- Net Annual Contributions ~ AUS\$2.5 B
- 10 Pre-Blended and Other Portfolios
- Illiquid Investments Limited to Pre-Blended Portfolios
- AUS\$22 B “Balanced” Fund (Most Popular) Contains 30% Allocation to Alternatives
  - Hedge funds
  - Private Real Estate
  - Infrastructure
  - Private Capital

## Plan History

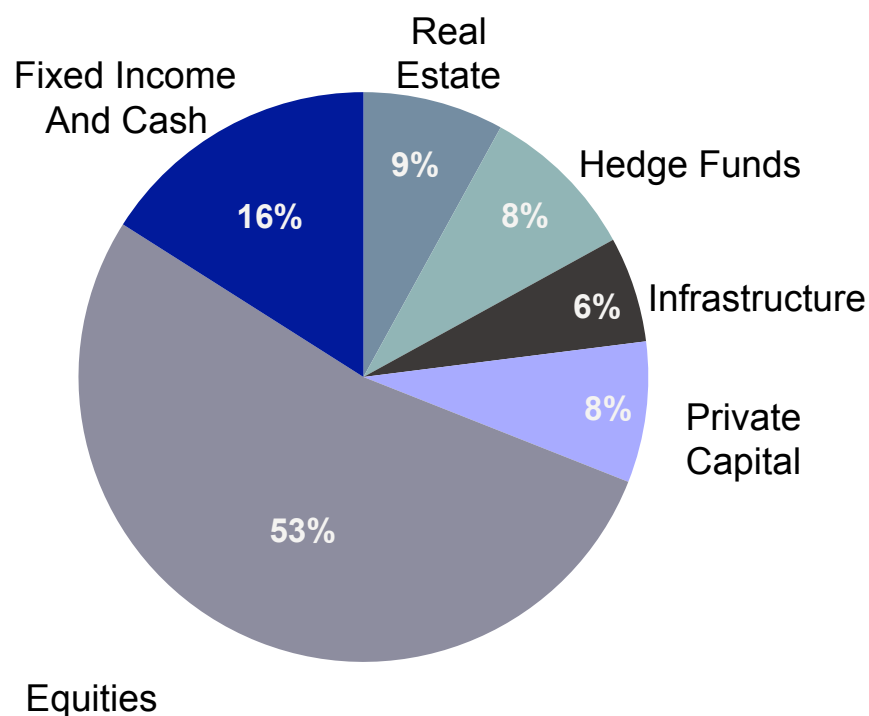
- Founded in 1987
- “Profit-for-Members” Fund Exists Solely For Benefit of Members
- Shareholders and Sponsors Include:
  - Queensland Chamber of Commerce
  - Queensland Council of Unions
  - Australian Workers Union

## Australian DC Market

- Compulsory employer contribution of 9.25%
- Default options comprise 80% AUM
- Regulatory standard for FMV and roll-forward
- Liquidity stress-testing requirements

# SunSuper – Illiquidity Management

## Balanced Pre-Blended Portfolio



Source: SunSuper Investment Report, Quarter Ended June 2013

## Valuation

- Hedge funds incorporated weekly
- Private capital as available from managers
- Real estate & infrastructure on periodic basis
- Required weekly disclosure from PMs on material information likely to affect values
- Internal and external audits

## Liquidity Management

- Maximum allocation of 35% to unlisted assets
- Monthly stress-testing, including capital calls and potential member switching, indicates illiquid assets could total 50%
- Consistent cash flows and young average age (33) of members temper liquidity needs



## SunSuper – Experience And Learning

- Alternatives only available in pre-blended portfolios
- Illiquid allocations did not breach targets during GFC
- Nor did they create any liquidity issues for the plan
- Foreign exchange volatility had larger impact in GFC
- Post 2008, plan enhanced governance and disclosures
  - Expanded oversight team covering illiquid asset classes
  - Separated investment and risk management functions
  - Expanded foreign exchange controls and modified hedging program



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## Summary and Conclusions

# A Strong Case Can Be Made For Including Illiquid Assets In Default Portfolio Designs

## Alternative asset classes can be additive to portfolio design

- Superior performance potential
- Uncorrelated sources of return
- Dampened portfolio volatility through fair value pricing of assets

## Valuation and trading issues are manageable

- Numerous precedents for non-market pricing methods
- Liquidity needs can be managed as part of broader allocation

## Risks are related primarily to inflexibility during a severe downturn

- In normal markets, options for exiting illiquid vehicles are available
- In periods of severe market stress, those options will be limited
- Provisions needed for participant-level liquidity through all market cycles
- Thoroughly communicate and document decision-making to minimize litigation risk

# Contributors

## DCIIA Member Firms

**AB**  
**Benefit Trust Company**  
**Boston Common Asset Management**  
**Brooks Retirement Consulting**  
**CEM Benchmarking**  
**Dividend Capital**  
**HarbourVest**  
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**Groom Law Group**  
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**Pantheon Ventures**  
**Principal Real Estate Investors**  
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# With Special Thanks To



## Case Study Firm

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Intel

Washington State

SunSuper

## Interviewee

---

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Stuart Odell

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## Appendix

# Additional Information



## Index Definitions

### MSCI World Index Hedged USD

The MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The MSCI World Index consists of the following 24 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Hedged indices represent the performance of an index of securities where currency exposures affecting index principal are hedged against a specified currency.

### Barclays Aggregate Bond Index

The Barclays Aggregate Bond Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

### Dow Jones Credit Suisse Hedge Fund Index

The Dow Jones Credit Suisse Hedge Fund Index is compiled by Dow Jones Credit Suisse Index LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Dow Jones Credit Suisse database, which tracks over 5000 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Dow Jones Credit Suisse Index LLC.

### Merrill Lynch US High Yield Master II Index

The Merrill Lynch High Yield Master II Index (H0A0) is a commonly used benchmark index for high yield corporate bonds. It is administered by Merrill Lynch. The Master II is a measure of the broad high yield market, unlike the Merrill Lynch BB/B Index, which excludes lower-rated securities.

### S&P GSCI Total Return

The S&P GSCI is a world production weighted index, the analogue to market capitalization weighting for equities. Currently, the GSCI includes 24 commodity futures contracts in the 5 major commodity groups.

### 3-month U.S. Treasury Bill

Treasury bill secondary market rates are the averages of the bid rates quoted on a bank discount basis by a sample of primary dealers who report to the federal reserve bank of New York. The rates reported are based on quotes at the official close of the U.S. government securities market for each business day.

## Index Benchmarks

Indices are unmanaged. The figures for the index reflect the reinvestment of all income or dividends, as applicable, but do not reflect the deduction of any fees or expenses which would reduce returns. Investors cannot invest directly in indices. The indices referenced herein have been selected because they are well known, easily recognized by investors, and reflect those indices that the Investment Manager believes, in part based on industry practice, provide a suitable benchmark against which to evaluate the investment or broader market described herein. The exclusion of "failed" or closed hedge funds may mean that each index overstates the performance of hedge funds generally.

References to indices, benchmarks or other measures of relative market performance over a specified period of time are provided for your information only and do not imply that the portfolio will achieve similar results. The index composition may not reflect the manner in which a portfolio is constructed. While an adviser seeks to design a portfolio which reflects appropriate risk and return features, portfolio characteristics may deviate from those of the benchmark.

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