IPERS®

Investment Board Meeting Agenda

Wednesday, September 15, 2021
IPERS Board Room
Conference Telephone #: 646-558-8656
Meeting ID: 848 3192 8804#
1:00 p.m. – 4:00 p.m.

1:00 p.m. **Call to Order**

1:05 p.m. **Fiduciary Training / Discussion**
Audra Ferguson-Allen and Robert L. Gauss, *Ice Miller*

2:00 p.m. **Break**

2:10 p.m. **Beta & Alpha Review / Current Initiatives**
Karl Koch, *IPERS*

3:00 p.m. **Break**

3:10 p.m. **Inflation Implications for IPERS' Portfolio**
Rose Dean and Ali Kazemi, *Wilshire*

4:00 p.m. **Adjourn**

IPERS' Investment Board In-Service Meeting

Fiduciary Training/Discussion

September 15, 2021

PRESENTED BY

AUDRA FERGUSON-ALLEN and
ROBERT L. GAUSS

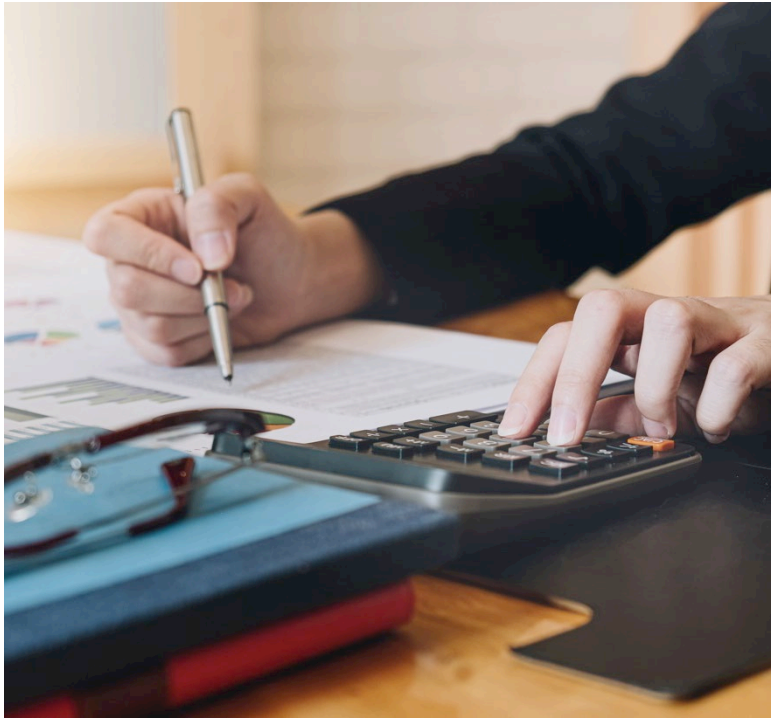
Agenda

1. Fiduciary Basics
2. Fiduciary Duties in Connection with Investments
3. Overview of Litigation
4. Best Practices for Mitigating Liability
5. Other Topics to Watch

Fiduciary Basics

Board's Role as Fiduciary

- Settlor establishes the terms of the trust and the plan in statutes
  - The Settlor = State/Legislature
  - The Investment Board is established by statute (97B.8A) and has specified actuarial and investment responsibilities for the System



Fiduciary Defined

- Look to <u>function</u> and <u>designation</u>
- Function: Discretionary administrative or investment decisions related to the plan
- Designation: Named in a plan, trust document, or statute as a fiduciary
- Trustees – both by function and designation

Internal Revenue Code § 4975(e)(3); ERISA § 3(21)

Board's Role as Fiduciary *(cont'd)*

- Settlor determines the scope of authority of the fiduciaries
  - Statutes give authority to the Board –
    - To establish an investment policy and goal statement which directs the investment activities
    - To review implementation of the investment policy
    - To review (annually) the investment policies and procedures
    - To hold a public meeting on investment policies and investment performance

Board's Role as Fiduciary *(cont'd)*

- To review and approve the hiring of each investment manager and investment consultant
- To be involved in the performance evaluation of the Chief Investment Officer
- To select the actuary to be employed by the System
- To adopt, from time to time, mortality tables and other necessary factors for use in actuarial calculations
- To adopt the actuarial methods and assumptions to be used by the actuary.

97B.8A

Who is a Fiduciary?

- For IPERS, fiduciaries include:
  - The Treasurer of the State of Iowa (as Custodian)
  - The Chief Executive Officer
  - The Chief Investment Officer
  - The Chief Benefits Officer
  - System Employees
  - The Investment Board

97B.4, 97B.7A, 97B.8A

Sources of Fiduciary Duties

Fiduciaries are held to extremely high standards of conduct under the law.

Federal Law	State Law	Common Law	Plan and Plan-Related Documents
• **Internal Revenue Code** • **ERISA** *(not directly applicable, but excellent resource)*	• **Statutory Fiduciary Rules** • **State Constitution**	• **Restatement (Third) of Trusts** *(collection of common law)* • **Uniform Management of Public Employee Retirement Systems Act (UMPERSA)**	• **Plan Documents** • **Statutes** • **Administrative Code** • **Trust Documents** • **Policies**

Affirmative Fiduciary Duties

- All powers held as a trustee – express and implied – are held in a fiduciary capacity.
- Every power or duty given to a trustee under state law must be exercised in accordance with fiduciary principles.

Affirmative Fiduciary Duty: Duty of Loyalty

Duty to act impartially among differing interests

Duty to act solely in the interest of participants and beneficiaries

Duty to act independently and without conflicts of interest

Duty to act for the exclusive purpose of providing benefits or paying reasonable plan expenses

Affirmative Fiduciary Duty: Duty of Prudence

Duty to diversify investments

Duty to act with the care, skill, prudence, and diligence of a prudent person familiar with like matters

Duty to act for the exclusive purpose of providing benefits or paying reasonable plan expenses

Duty to delegate responsibilities outside of experience

Affirmative Fiduciary Duty: Duty to Follow Plan Document

- The fiduciaries shall discharge their duties in accordance with 97B.7A:
  - In accordance with the laws governing the System; and
  - In accordance with other plan documents and instruments (to the extent consistent with the subtitle)
    - Administrative Code
    - Investment Policy and Goal Statement
    - Ethics Policy

Duty to Follow Plan Documents

Fiduciary duty to administer a plan in good faith in accordance with its **written terms – "by the book."**

- Plan includes the statutes, administrative rules, and administrative procedures
- Consistent interpretation and administration
- Timely update for legally required changes
- Timely correct plan errors

Burden on fiduciary to understand the governing documents of the plans and the context in which the plans exist.

Fiduciary Duties in Connection with Investments

1. Duty of Loyalty

Duty of Loyalty: Exclusive Benefit Rule

"Under the trust instrument it [must be] impossible, at any time prior to the satisfaction of all liabilities with respect to employees and their beneficiaries under the trust, for any part of the corpus or income to be (within the taxable year or thereafter) used for, or diverted to, purposes other than for the ***exclusive benefit of his employees or their beneficiaries***."

- Code § 401(a)(2)
- This is a qualification requirement under the Code
- 97B.7

Exclusive Benefit Rule – Practical Impact for Board

- Plan assets may only be used to pay benefits pursuant to the state law and reasonable expenses
- Benefits must be payable only in accordance with plan terms
- Use settlor v. fiduciary function analysis for reasonable expenses
- Up to $50,000 per fiscal year for expenses of the Benefits Advisory Committee
- Payment of (*reasonable*) investment management expenses

97B.7

Duty of Loyalty: Independence

A trustee is to be independent of preconceived notions.

- "Many forms of conduct permissible in a workday world for those acting at arm's length, are forbidden to those bound by fiduciary ties. A trustee is held to something stricter than the morals of the marketplace."

- "Independence is required because it permits trustees to perform their duties in the face of pressure from others who may not be subject to such obligations."

Duty of Loyalty: Impartiality

A fiduciary owes a duty of loyalty to **all participants and beneficiaries**, and respecting that duty requires the fiduciary to be **impartial among differing interests**.

Prevents application of assets for personal use, self-dealing, competition with trust, or improper benefit.

Duty of Loyalty: Impartiality *(cont'd)*

- Balance the interests of retirees and active participants
- Balance the interests of different groups of participants
  - Teachers, state employees, safety officers, local employees

Duty of Impartiality

- UMPERSA Commentary: "Differing interests are inevitable in the retirement system setting. Differences can arise between retirees and working members, young members and old, long- and short-term employees, and other groupings of those with interests in the retirement system. The duty of impartiality does not mean that fiduciaries must accommodate such interests according to some notion of absolute equality. The duty of impartiality … requires that such decisions be made carefully and after weighing the differing interests."

Duty of Loyalty: Practical Impact

A fiduciary has a duty to act in the interest of the trust **as if it had no other competing interests to protect**.

- Cannot act for fiduciary's own interest
- Cannot be influenced by the interest of any third person
- **Must set aside the interests of the party that appoints the fiduciary**
- **Not an agent for the party that appoints fiduciary (Two-Hat Rule)**

Requires **undivided loyalty** to members and beneficiaries.

2. Duty of Prudence

Fiduciary Principles – Care, Skill, Prudence, Diligence

- "Exercise good judgment and care, under the circumstances then prevailing, with persons of prudence, discretion, and intelligence exercised in the management of their own affairs, not for the purpose of speculation, but with regard to the permanent disposition of the funds, considering the probable income, as well as the probable safety of their capital."

97B.7A.1.a. (patterned after ERISA standard)

Fiduciary Principles – Care, Skill, Prudence, Diligence *(cont'd)*

- "Give appropriate consideration to those facts and circumstances that the System and Board know or should know are relevant to the particular investment or investment policy involved, including the roll the investment plays in the total value of the retirement fund."

97B.7A.1.b.

- Appropriate consideration includes . . . determination that the particular investment or investment policy was reasonably designed to further the purposes of the retirement system, taking into consideration the risk of loss and the opportunity for gain or income associated . . .

Fiduciary Principles – Care, Skill, Prudence, Diligence *(cont'd)*

- Factors to be considered:
  - The composition of the retirement fund with regard to diversification
  - The liquidity and current return of the investments in the retirement fund relative to the anticipated cash flow requirements of the retirement system.
  - The projected return of the investments relative to the funding objectives of the retirement system.

97B.7A.1.c.

Duty of Prudence: Delegation

- A fiduciary is able to delegate functions that a prudent fiduciary acting in a like capacity and familiar with those matters could properly delegate.
- A fiduciary has a duty to delegate responsibilities outside of the fiduciary's expertise.
- Delegation should not be overly broad and must be consistent with duties of care and caution, *e.g.* terms of delegation must be prudent.

Duty of Prudence: Delegation *(cont'd)*

Documentation should be clear and consistent

- Set out specific duties in writing
- Ensure all delegated acts are approved by the fiduciary
- Require the delegate accepts all assigned duties

Delegation is a fiduciary act

- Must delegate **prudently and in accordance with the written plan**
- Must **monitor** the delegate
- Fees and costs must be **reasonable**

Duty of Care/Prudence – Importance of Delegation *(cont'd)*

- Responsibilities that are outside the trustee's skill set
- Secure and consider advice of experts
  - Investment managers and investment consultants
  - Actuary
  - Legal advisors
- Duty with respect to Co-Trustees from ERISA and from the Restatement
  - Settlor determines areas of responsibility
  - Each trustee must take reasonable care to prevent a co-trustee from committing a breach of trust and to obtain redress if there is a breach.

Question: Can Trustees consider Economic Impact to State when setting assumptions?

- Discussion

Duty of Prudence: Diversify

In investing and managing assets, a fiduciary with authority to invest and manage assets shall diversify the investments unless the trustee reasonably determines that it is not prudent to do so.

Duty to Diversify (97B.7A)

Tibble v. Edison Int'l, 135 S.Ct. 1823 (2015) a fiduciary has a "continuing duty of some kind to monitor trust investments and remove imprudent ones." at 1828-1829

Duty of Prudence: Continuing Duty to Monitor

- Common law of trusts recognizes a continuing responsibility to monitor investments after initial selection:
  - "[A] trustee's duties apply not only in making investments but also in monitoring and reviewing investments, which is to be done in a manner that is reasonable and appropriate to the particular investments, courses of action, and strategies involved." Restatement (Third) of Trusts.
  - Recognizing that 97B.4 provides immunity for actions that do not involve malicious or wanton misconduct and 97B.7A provides reimbursement against any claim of personal liability.
- This duty to monitor also applies to actuarial assumptions which impact funding and contribution rates.

Overview of Litigation

Overstreet, et al. v. Mayberry

Supreme Court of Kentucky, 2019-SC-000041-TG (2020)

Background

- In 2000, all of Kentucky's public retirement plans were fully funded.
- By 2018, the Louisville Courier-Journal reported Kentucky's main employees' system (non-hazardous) had $13.6 billion in unfunded liabilities and was "the worst-funded public pension plan in America"

The *Mayberry* Lawsuit (original version of case)

- Plaintiffs: 8 members of plans within KRS on behalf of the plans (a derivative action as members, beneficiaries and taxpayers)

Overstreet, et al. v. Mayberry *(cont'd)*

- Defendants: over 30, including eleven (11) KRS trustees and officers in their individual capacity, investment managers/advisors, hedge funds (including their executives), actuaries and outside counsel

- Filed in: Kentucky State Court in December 2017 (*Mayberry, et al. v. KKR, et al.*)
- Claims:
  - Breach of trust and fiduciary duties by KRS trustees
  - Breach of duties related to investments (both types of investments and their costs)
  - Breach of duties related to investment return assumption
  - KRS Trustees and Officers attempted to "gamble" way out of underfunding through high-risk investment products ("fund-of-hedge-fund")
  - Losses from investments caused $25B underfunding

Overstreet, et al. v. Mayberry *(cont'd)*

- Breach of statutory duties by KRS trustees, officers, advisors
- Civil conspiracy by all defendants to breach fiduciary duties
- Aiding and abetting by KRS officers and others
- Punitive damages against certain non-KRS defendants

- Relief Sought: Monetary damages, disgorgement of fees, declaratory and injunctive relief (including removal of a specific trustee from the Board), attorneys' fees
- Supreme Court Decision: July 9, 2020 – Case dismissed because Plaintiffs lacked an injury in fact sufficient to support constitutional standing (procedural grounds) (case since has been taken up by the Commonwealth's Attorney General)

Fee Litigation: Background

- Fee litigation began in 2006, primarily against 401(k) **defined contribution** plan sponsors in the private sector
- Claimants typically allege **breach of fiduciary duties**
- Mixed outcomes in courts, but **settlements totaling in the millions** (*e.g.* $62 million with Lockheed Martin, $57 million with Boeing) have fueled litigation
- In **2016**, a new round of lawsuits against private universities related to governance and administration of 403(b) plans

University 403(b) Fee Litigation

- Claims being made in these lawsuits are similar to those made in the 401(k) lawsuits.
- However, the university lawsuits are unique because of the history of 403(b) plans, which until fairly recently, were treated by many employers as loosely organized payroll arrangements.
  - Historically, contracts were individually owned and marketed directly to participants.
  - Investments are limited to annuities and custodial accounts.
  - Multiple record keepers are common.
  - Service is more highly valued by participants.
  - Universities often have decentralized governance structures.
  - Full Form 5500s and audits not required until 2009 (private only).
  - 403(b) plans not required to have written plan document until 2009.
  - Fee disclosure first required in 2012 (private only).

University 403(b) Fee Litigation *(cont'd)*

- Fiduciary standards **make no distinction** based on type of plan.
  - *"Because of the modern-day similarity between the two retirement plans, the analysis of the fiduciary standards for 403(b) and 401(k) plans must be the same."*

Sweda v. University of Pennsylvania, Order Dismissing Complaint, p. 13, No. 16-4329 (E.D. Pa. 9/21/2017)

Claims for Relief

- What do plaintiffs want?
  - Class certification.
  - Declaration of breach of fiduciary duty.
  - Restoration of losses and “make whole” remedy.
  - Removal of current fiduciaries.
  - Reformation of plan investments.
  - Attorneys’ fees.
- Alleged damages are significant.

Who has been Named Defendant?

- Private Colleges/universities
- Investment committees and individual committee/board members
- Individual employees
  - VP of Human Resources
  - VP of Investments
- Investment advisors/consultants

Fee Litigation: Specific Allegations

Breach of Duty of Loyalty	Breach of Duty of Prudence	Breach of Duty of Independence
• "Locked in" investments favoring record keeper • Too many investment options leading to investment paralysis • Excessive fees for plan administration that benefited record keeper	• Unreasonable administrative fees (*e.g.* revenue sharing, lack of competitive bids, asset-based vs. flat fees) • Selecting and retaining investments with high fees and poor performance • Investment options too numerous • Flawed process for selecting and monitoring investments. • Multiple record keepers increasing costs • "Locked in" arrangement with vendor	• Use of plan information to market other products outside the plan

Best Practices for Mitigating Liability

Statutory Indemnification

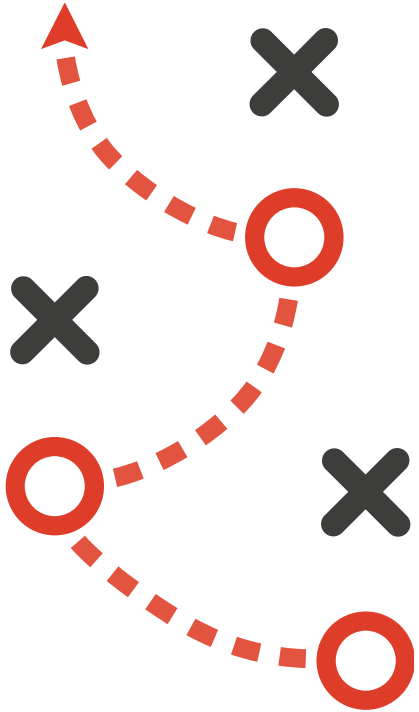
- Immunity 97B.4
- Reimbursement 97B.7A

The Focus On Process

- Focus on **procedural prudence**
- Courts have held the test of prudence is one of conduct and process, and not one of result

  "*Trustees and fiduciaries are not insurers. Not every investment or management decision will turn out in the light of hindsight to have been successful. Hindsight is not the relevant standard*."

  – UMPERSA § 10(1); see also Restatement (Third) of Trusts



The Focus On Process *(cont'd)*

- There is no one "right" way to achieve procedural prudence
- Important to have a good, documented process
- **Critical to follow that process**
- Critical to retain expertise where needed and understand expert advice
- Know and follow plan documents

Managing Fiduciary Risk (*cont'd*)

- Document decisions and the basis for decisions
- Conduct periodic training of fiduciaries
- Retain expertise where needed
- Properly allocate fiduciary roles in writing
- Conduct financial and management audits

Managing Fiduciary Risk *(cont'd)*

- Due diligence in selecting and monitoring investment managers/actuaries/other consultants and advisors
- Prudently select and monitor investments/actuarial assumptions
- Understand and negotiate plan fees and expenses
- Get competitive bids from service providers
- Negotiate contracts with service providers

Managing Fiduciary Risk *(cont'd)*

- For delegated duties:
  - Properly select those to whom duties are delegated
    - *e.g*. monitoring performance of consultants, actuary and supervisory staff
- Retain expertise where needed
- Consider fiduciary insurance
- Avoid conflicts of interest

Other Topics to Watch

Other Topics to Watch

- ESG (“Environmental, Social, Governance”)
- Proxy Voting

ESG Considerations

- 1994 – Department of Labor ("DOL") issues Interpretive Bulletin ("IB") 94-1
  - A prudent investment should include a thorough consideration of the expected return on alternative investments that have similar risk and reward factors as other investments currently available in the plan.
  - If the standards are met, the selection of an Economically Targeted Investment ("ETI") does not violate ERISA
  - Defines ETIs as "investments selected for the economic benefits they create apart from their investment return."
- 2008 – IB 2008-01 established that a Plan may consider factors other than investment return ("ESG Factors") as a "tie-breaker" when alternative investments are economically equivalent

ESG Considerations *(cont'd)*

- Observed that ERISA does not specifically provide a basis for selecting between economically equivalent investments
- Economic interests of a plan are protected when there is economic equivalence between investment selections
- In such situation choosing between economically equivalent investments based on ESG Factors is consistent with ERISA
- To rely on ESG Factors, fiduciaries "must first have concluded that the alternative options are truly equal, taking into account a quantitative and qualitative analysis of the economic impact on the Plan."
- Fiduciaries generally must establish a written record demonstrating the economic equivalence of investment alternatives

ESG Considerations *(cont'd)*

- 2015 – IB 2015-01
  - Issued out of concern that the 2008 guidance was dissuading fiduciaries from pursuing investment strategies that considered ESG Factors
  - Clarifies that fiduciaries "should appropriately consider factors that potentially influence risk and return," and ESG Factors "may have a direct relationship to the economic value of the plan's investment."
  - DOL does not believe ERISA prohibits a fiduciary from addressing ETIs or incorporating ESG factors
  - Reiterates the importance of documentation of investment decisions relying on ESG Factors
- 2020 – on November 13, 2020, the DOL published its final rule on fiduciary duties and their application to ESG Factors ("Investment Duties Rule").
  - It goes back to IB 2008-01 and requires that a fiduciary evaluated investment or investment course of action based only on "pecuniary factors," unless the fiduciary is unable to distinguish the investments on the basis of pecuniary factors alone.

ESG Considerations *(cont'd)*

- A fiduciary may not "subordinate the interests of participants and beneficiaries . . . to other objectives and may not sacrifice investment return or take an additional investment risk to promote non-pecuniary benefits or goals."
- The fiduciary is required to document (in part):
  - Like pecuniary factors were not sufficient to select the investment
  - How the selected investment compares to alternatives
  - How the non-pecuniary factor(s) is/are consistent with the interests of participants and beneficiaries and their financial benefits.
- 2021 – DOL announces that it will not enforce the Investment Duties Rule. The DOL notes that the final rule was said to have "a chilling effect on appropriate integration of ESG factors in investment decisions."

Voting Proxies/DOL Guidance

- Similar history as to ESG investing.
- IB 94-2 – Fiduciary duties applicable to the management of stock assets including the voting of proxies appurtenant to those shares
  - Fiduciary duties require that a fiduciary periodically monitor the activities of the investment manager, including with regard to proxy voting.

Voting Proxies/DOL Guidance *(cont'd)*

- Endorses shareholder activism to the extent that it is "likely to enhance the value of the plan's investment."

- Advisory Opinion 2007-07a – fiduciaries, when considering whether to support or oppose a proxy proposal or engage in other activities to influence management, must first consider the cost of such action and the role of the investment in the plan's portfolio
  - Fiduciaries may not increase expenses, sacrifice investment returns, or reduce the security of plan benefits to support or promote goals not directly related to the plan.

Voting Proxies/DOL Guidance *(cont'd)*

- 2016 – IB 2016-01 – Rescinded IB 2008-01
  - Rescinded IB 2008-01 and responded to concerns that 2008-01 was articulating a general rule that broadly prohibited plans from exercising shareholder rights, including the voting of proxies, unless the plan has performed a cost-benefit analysis and concluded in the case of each particular vote or exercise of shareholder rights that the action is more likely than not to result in a quantifiable increase in the economic value of the plan's investment.
  - Consistent with the common law of trusts, the fiduciary act of managing plan assets that are shares of stock includes the voting of proxies appurtenant to those shares.
  - A delegating fiduciary is responsible for monitoring the fiduciary's procedures and actions.

Voting Proxies/DOL Guidance *(cont'd)*

- 2020 – DOL announces that IB 2016-01 "no longer represents the view of the DOL."
- December 16, 2020, the DOL published a final rule on the application of fiduciary duties to proxy voting.
- Identifies the right to vote proxies as a shareholder right that is appurtenant to shares of stock that are plan assets. Imposes general requirements on plan fiduciaries for deciding whether to exercise shareholder rights. Factors include:
  - Acting solely in accordance with the economic interests of the plan and its participants and beneficiaries;
  - Considering any costs involved;
  - Not subordinating the interests of participants and beneficiaries and their retirement income of financial benefits to any non-pecuniary objective.

Voting Proxies/DOL Guidance *(cont'd)*

- 2021 – DOL issues a policy statement of non-enforcement
  - Shareholder activism is consistent with fiduciary duties if there is a reasonable expectation that the particular form of activism is likely to enhance the value of the plan's investment, considering all costs involved.
  - Proxies may be voted as part of the normal process of managing investments unless a fiduciary determines that the time and costs may not be in the plan's best interests.

Questions?

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Beta & Alpha Review and Current Initiatives

Presented to the IPERS Investment Board

Karl Koch, Chief Investment Officer

September 15, 2021

IPERS

Agenda

- **Terminology**
- **Key Roles**
- **Key Concepts**
- **Investment Returns**
  - Risk Premia
  - Pure Alpha
- **Alpha – Beta Separation**
- **The Active Risk Budget**
- **Current Initiatives**

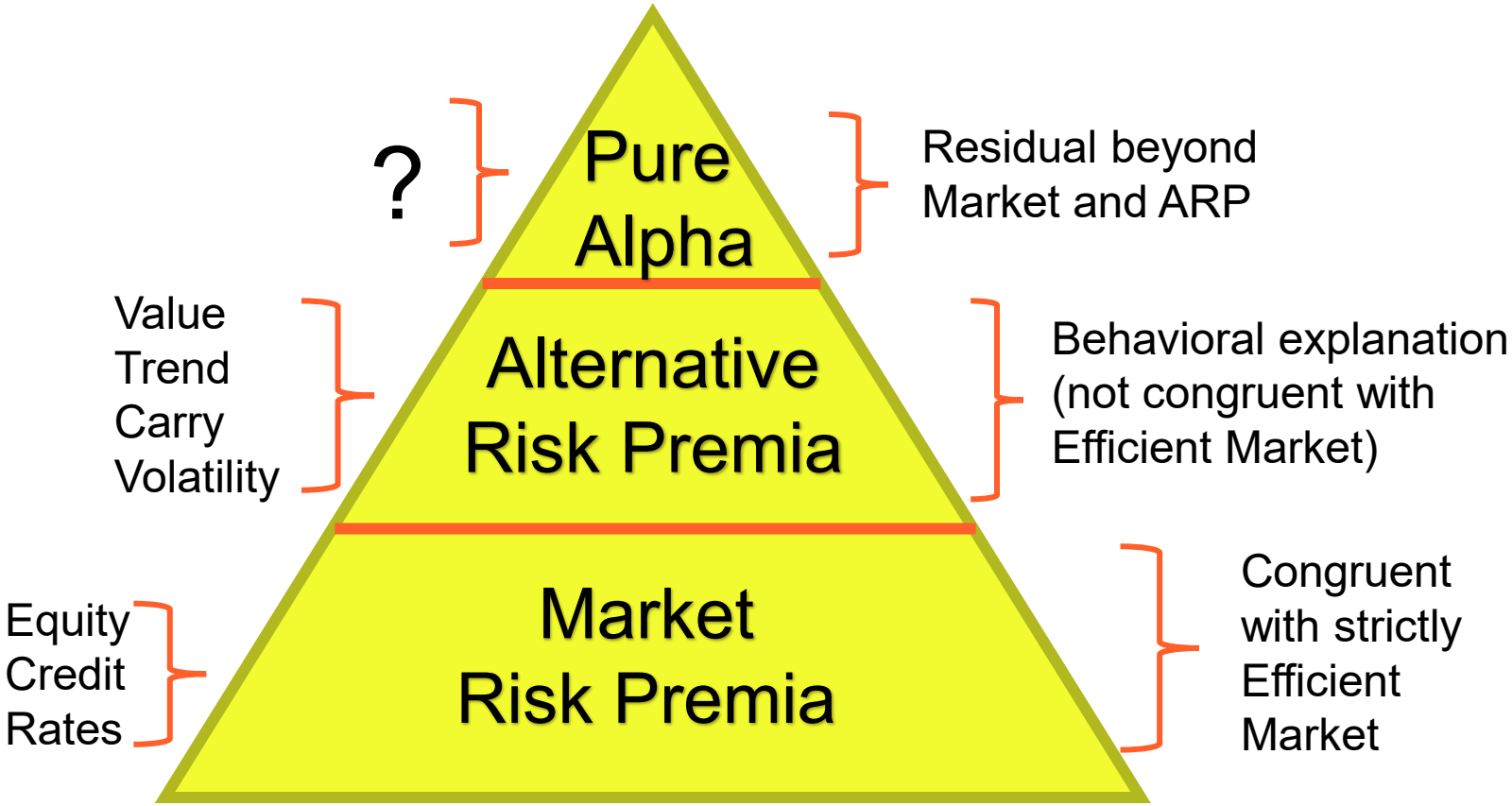
Terminology

- **Beta** – market returns
- **Risk** – the volatility of return (standard deviation is the most common volatility measure, but other measures exist)
- **Active Management** – attempt to earn additional return above the market return; usually selection and/or timing
- **Alpha** – the return from active management
- **Active Risk** – is the volatility of Alpha (standard deviation)
- **Active Risk Budget** – amount of risk staff is allowed to allocate to active management
- **Risk Premium -** a reward for taking risk
  - Market Risk Premia
  - Alternative Risk Premia

Key Roles

- **The Investment Board communicates the System's risk tolerance through the adoption of an investment policy**
  - Asset Allocation Policy (How much market risk? Which betas?)
  - Active Risk Budget (How much risk from active management?)
- **The CIO and the Investments team implement policy**
  - Efficiency – minimize the cost of beta; negotiate alpha costs
  - Risk management – rebalancing; minimizing unintentional bets
  - Seek to add value through external and internal active management
- **The Consultant assists Board and Staff**
  - Assist in policy development, asset allocation in particular
  - Assist in selection process of external investment managers and funds
  - Provide independent evaluation of investment performance

Investment Return



Investment Returns – Risk Premia

- **Market Risk Premia reward the investor for taking traditional "long-only" market risks**
  - For example, an investor expects a reward (a higher return) from investing in the stock market rather than a T-bill. A well diversified portfolio of stocks or stock index fund delivers the equity market risk premium to the investor
  - Commonly referred to as "beta", market risk premia are unconditionally provided by the markets; that is, no skill is required to obtain these premia
  - Betas can be obtained through index funds, swaps, ETFs, etc. at low cost
  - Market beta includes things like equity, credit and interest rates
- **Alternative Risk Premia (ARP) reward the investor for taking risks rooted in behavioral biases of investors**
  - Value, momentum, carry, volatility are some examples
  - For example, investors prefer inexpensive stocks and bonds; studies over long periods of time show this "value" premium exists
  - Studies also show the existence of a momentum risk premium, where security price trends tend to persist in the near term

Investment Returns – Pure Alpha

- **Pure alpha in theory**
  - cannot be explained by market premia or ARP
  - The result of skillful investment management
- **A strategy can produce pure alpha return while investing in markets and ARPs**
  - Alpha can come about from skillful timing and/or selection skill
- **ARP was difficult to obtain outside of hedge funds and were often considered pure alpha in the past**
  - ARP have become readily available to investors at costs well below what hedge funds charge
- **So, does pure alpha even exist today?**
  - We think it probably does
  - Most likely to be found in absolute return products (hedge funds) that have more breadth, resources and the ability to attract talent

Portable Alpha

- **Alpha and beta decisions should be made separately!**
- **Portable alpha**
  - Allows investors to separate asset allocation from alpha generation
  - Investors choose the optimal manager who can generate their target beta exposure efficiently
  - Separately, high-quality alpha-seeking managers can be selected from a far wider universe of managers to generate excess returns. *(BlackRock, 2019)*
- **Porting is a form of leverage because beta exposure is obtained notionally through derivatives**
  - For example, $100 par of bonds are sold for cash; 50% of the cash proceeds are invested in a hedge fund, while the remaining 50% of cash is used to support derivatives that provide $100 of notional exposure to bonds
  - The more cash reserved for margin, the less liquidity risk

Portable Alpha

- **IPERS does not have an asset allocation to LARS, ARP or absolute return strategies - these sources of alpha are "ported" into the investment portfolio using "beta overlays"**
- **Beta overlays allow IPERS to invest in unique alpha sources without changing the Board's strategic asset allocation**
- **There is a cost for beta overlay - which must be factored into the expected return of portable alpha strategies**
- **The amount of portable alpha used in the IPERS portfolio is controlled by**
  - Total active risk budget – decided by the Board
  - Staff allocation decisions on where to spend active risk
  - Staff decisions on level of leverage utilization (liquidity risk)
  - Diversification

The Active Risk Budget

- This is the current active risk budget set by the Board:

	Target	Upper Limit
Total Fund	1.50%	3.00%
External Managers	1.00%	2.50%
Investment Staff	1.00%	2.50%

- Note that IPERS views private markets as "beta only" asset classes; i.e., no alpha = no active risk
- IPERS has an attractive active risk conversion ratio
- It is important to understand that putting more active risk to work requires the use of more beta overlays (leverage)
- IPERS current active risk utilization is about 0.25% with roughly $500 million in beta overlay
- It is estimated that to get to 1.00% active risk utilization will require about $4 billion in beta overlay

Current Initiatives

- **The ARP Program should go "live" in 4th quarter**
  - Will begin with $300 million initial program size
- **The LARS program has added 2 new managers and will be ramped up from $425 million to $700 million by end of CY**
- **IPERS will issue another absolute return RFP to look for more hedge fund strategies. The search process will change a bit:**
  - Some funds do not like to submit their returns data to commercial databases, so we will collect the returns ourselves this time
  - Our screening algorithm has been updated to give more weight to longer, successful track records; less weight for correlation to liabilities
- **If we find strategies that appear to be pure alpha:**
  - We expect high fees, with probably little room for negotiation of terms
  - Some attractive products may be closed; may need to "get in line"
- **Discipline and patience will be required**

Inflation Implications for IPERS Portfolio

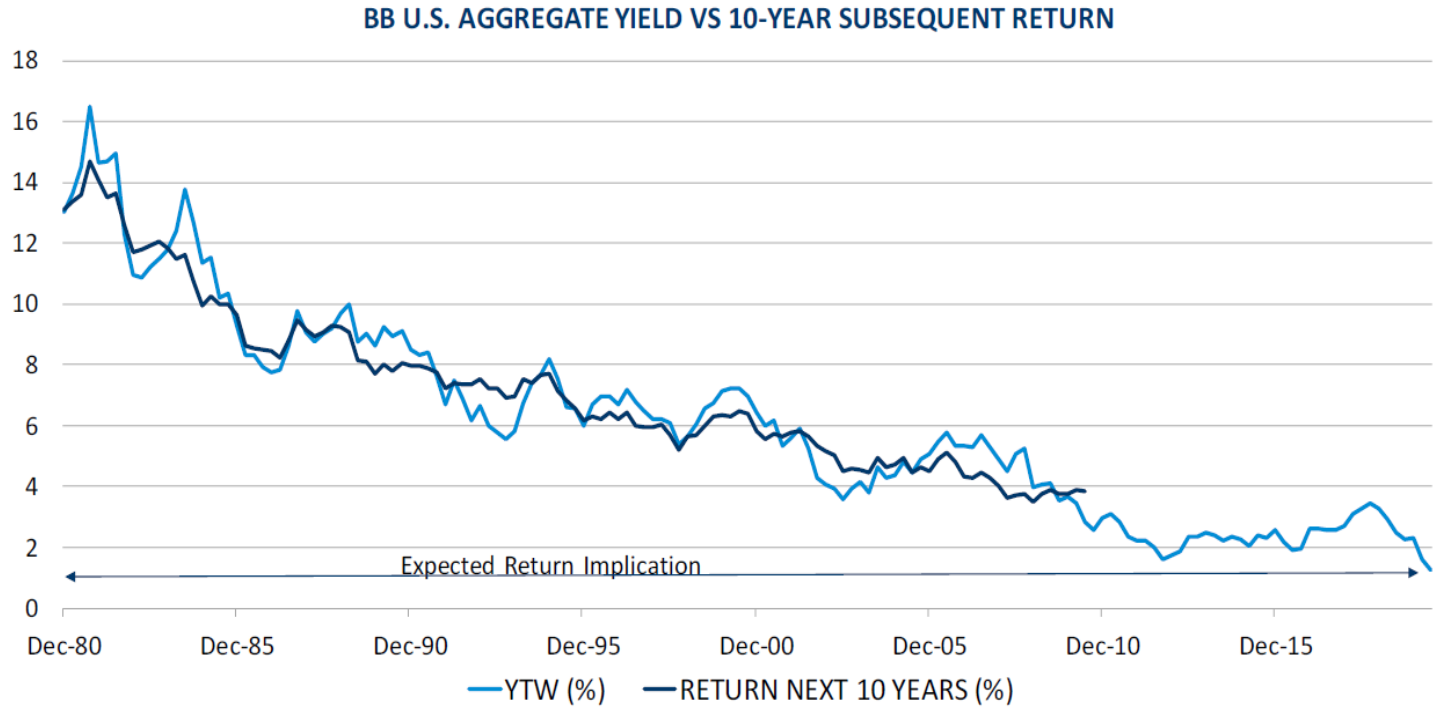
September 2021

Wilshire

Low Rate Challenge

Wilshire

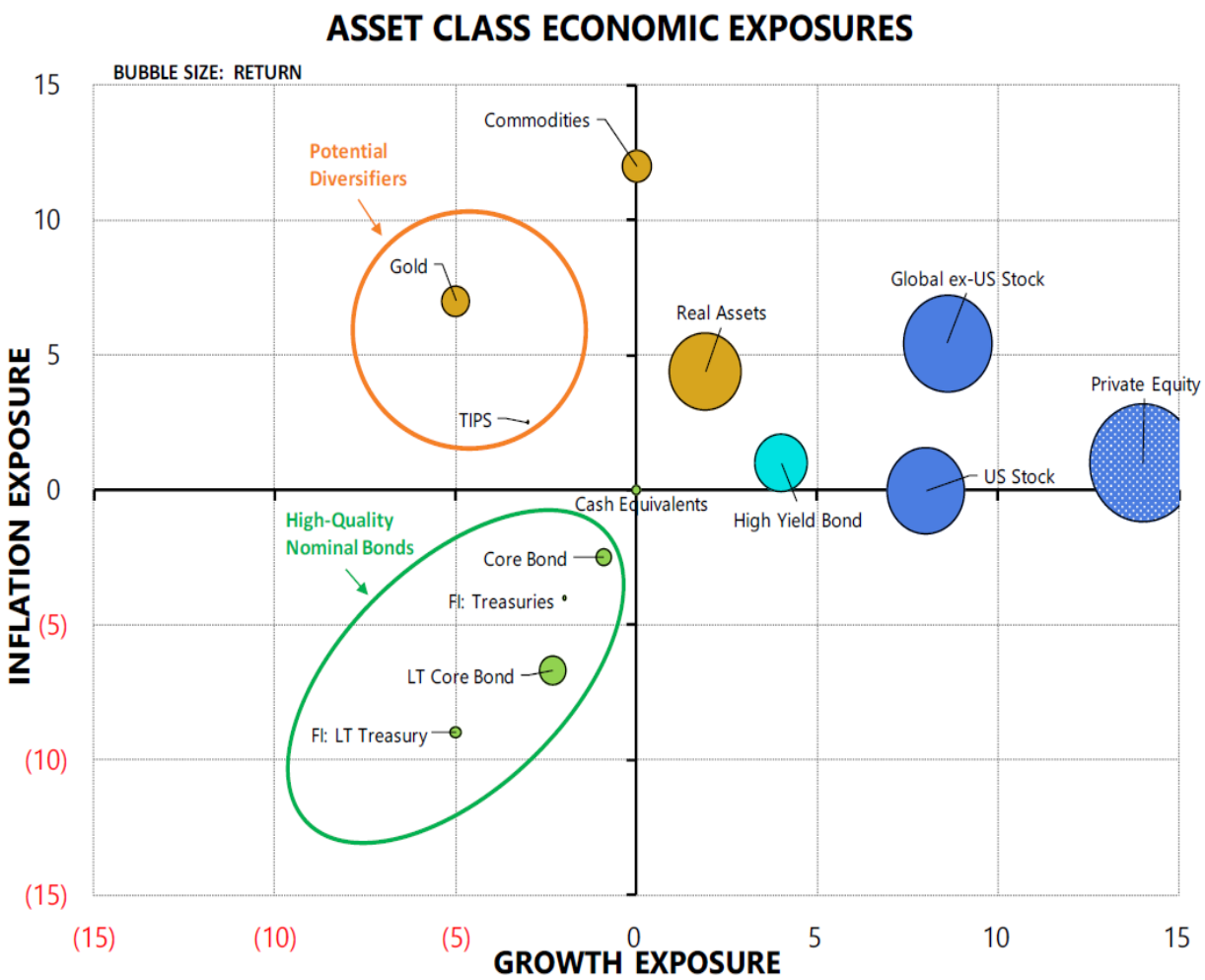
Bonds Running on Empty[1]



- High quality bond yields have been on a steady and secular decline for nearly 40 years
- “Going in” yield is a very strong indicator of the subsequent total return period
- Projected Core Bond return for the next 10 years is 1.85%[2]
- From where yields are now, Core Bonds risk is asymmetrical

[1] Wilshire (2020), The Investor’s Challenge” “Running Against the Wind,” Foresti
[2] Wilshire June 2021 Capital Markets Assumptions
Data Source: Bloomberg

Economic Factor Exposure

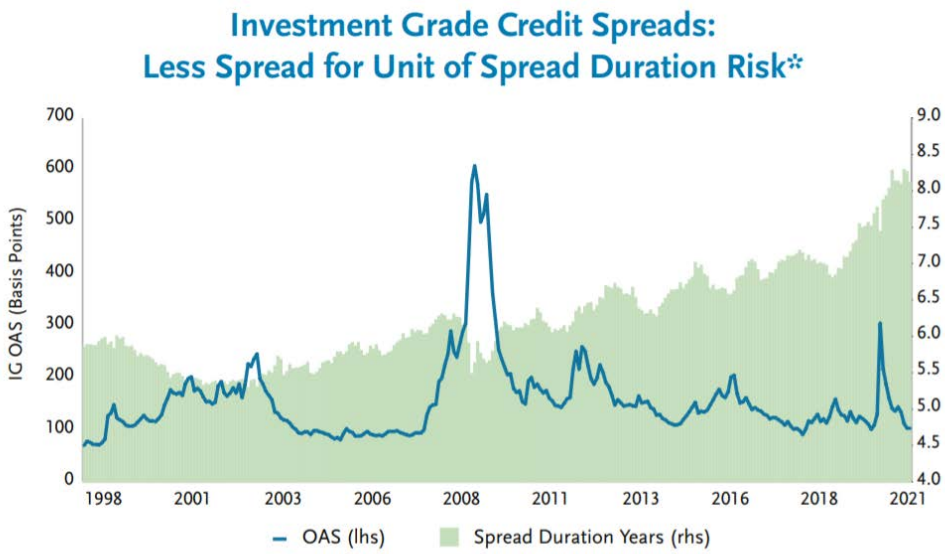


- Factor Exposure are derived by regression of various asset class return sensitivity versus:
  - Changes in economic growth, as measured by changes in real yields and changes in credit spreads
  - Changes in inflation expectations, as measured by changes in breakeven (difference between nominal bond yields and TIPS yields)
- Portfolio factor exposure numbers are used to make relative comparisons in terms of vulnerability to these economic factors

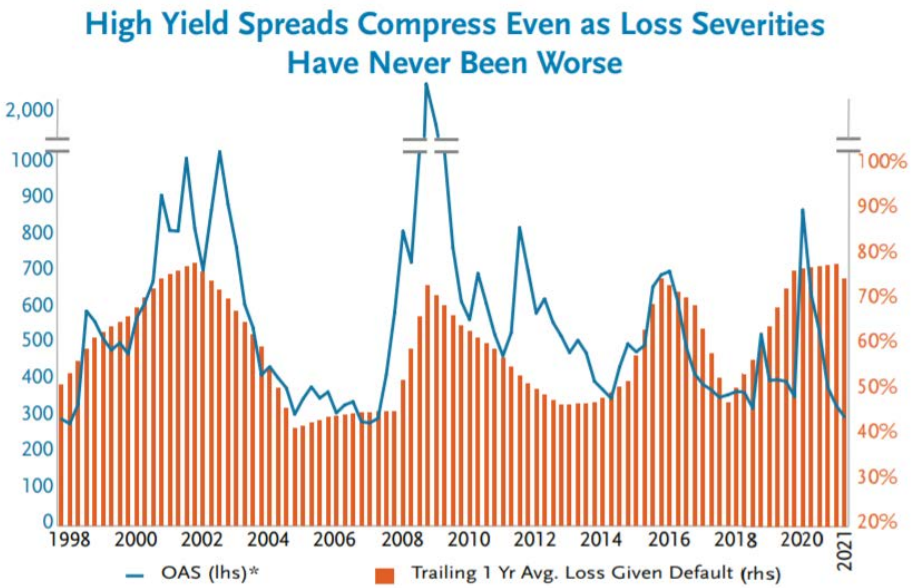
Source: Wilshire

Challenging Valuations

- Asset valuations are frothy, approaching bubble territory.
- Investment grade credit averages 8.5 year duration (all time highs) with yield spread at all time lows.
- High yield total yield at 3.5%, adjusting for loan loss, yielding less than inflation.



Source: Bank of America, Bloomberg
* Data based on ICE BofA U.S. Corporate Index (C0A0).



Source: Bank of America, JP Morgan, Bloomberg

Inflation

Wilshire

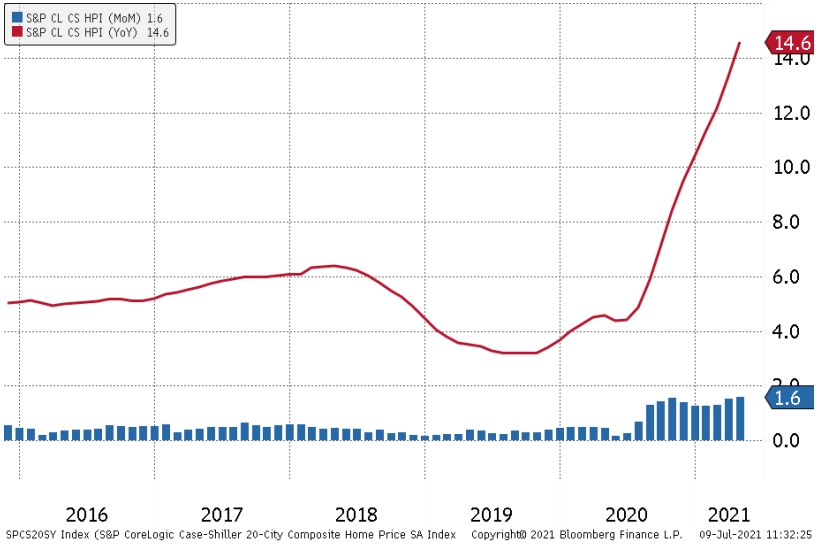
Catalysts of Inflation

	Demand-Pull (Increased Aggregate Demand)		Cost-Push (Decrease in Aggregate Supply)	
Consumer	☒	Spending ↑	☒	Wages ↑
Corporate Sector	☒	Cap Ex ↑	☑	Corporate Concentration / Monopoly Pricing
Government	☑	Fiscal Stimulus/Deficits ↑	☒	Taxes ↑
	☒	Taxes ↓		
Exports	☒	Prosperity Abroad	☑	Peak Globalization/ Tariffs ↑
	☑	$ ↓		
Monetary Policy	☑	QE: Excess Liquidity	☒	Tight Monetary Conditions
Other			☑	Commodity Scarcity/ Supply Line Disruption

☑ **Indicates catalysts that are currently potentially "in play"**

Inflation in most places you look…

S&P/Case-Shiller U.S. National Home Price Index



Commodity Price

Data Source: Bloomberg

Is Cost Side Inflation Pressure Transitory?

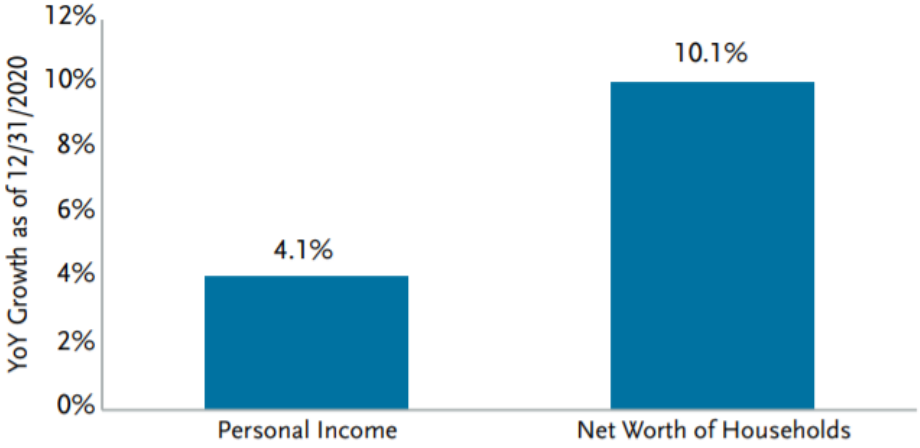
Transitory

1. Extreme Pent-Up Demand
2. Supply Chain Disruption
3. Labor Force Participation
   A. Off the Dole
   B. Back to School
4. Economics 101: Supply will increase to meet demand

Not Transitory

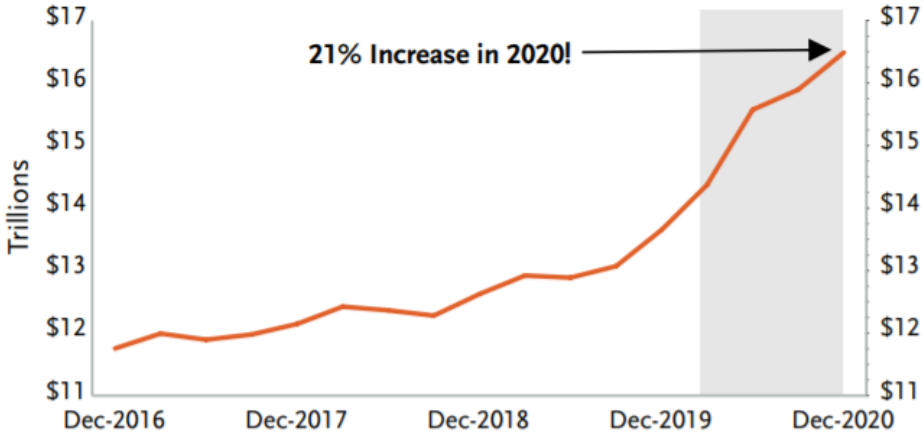
1. Government Intervention (Taxes, Tariffs, Anti-Trust, etc.)
2. De-Globalization/Protectionism
3. "Super Trends"
   A. Infrastructure Investment
   B. Energy Transition
   C. ESG/Data Protection

Personal Income and Net Worth Are Up



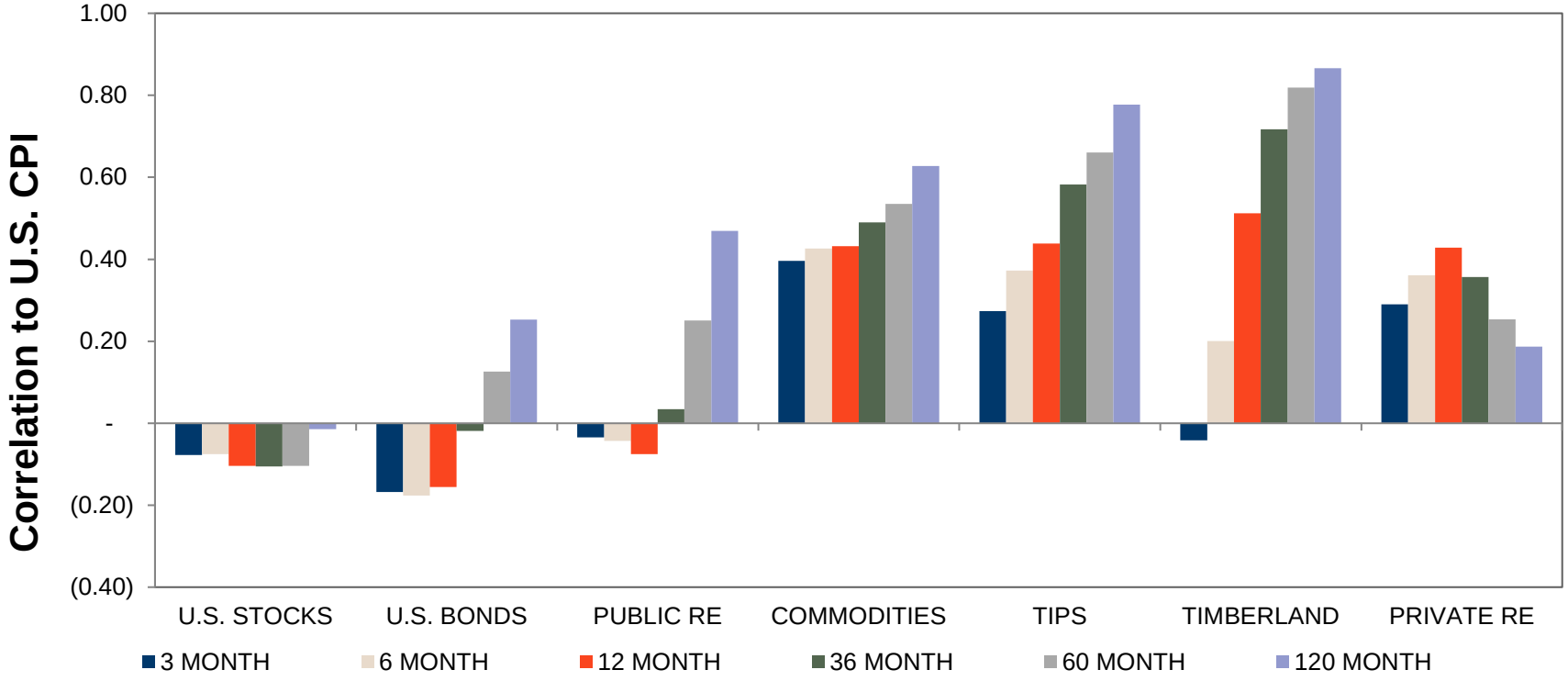
Source: Bloomberg, BEA, Federal Reserve, TCW

Households Are Flush With Cash*



* Aggregate amount of households' and nonprofit organizations' checkable deposits, currency, time and savings deposits, and money market funds.
Source: Federal Reserve, TCW

Correlation to Inflation



- **Unlike financial assets, which generally exhibit negative correlation with inflation, real assets display positive correlation with inflation, particularly over longer holding periods**

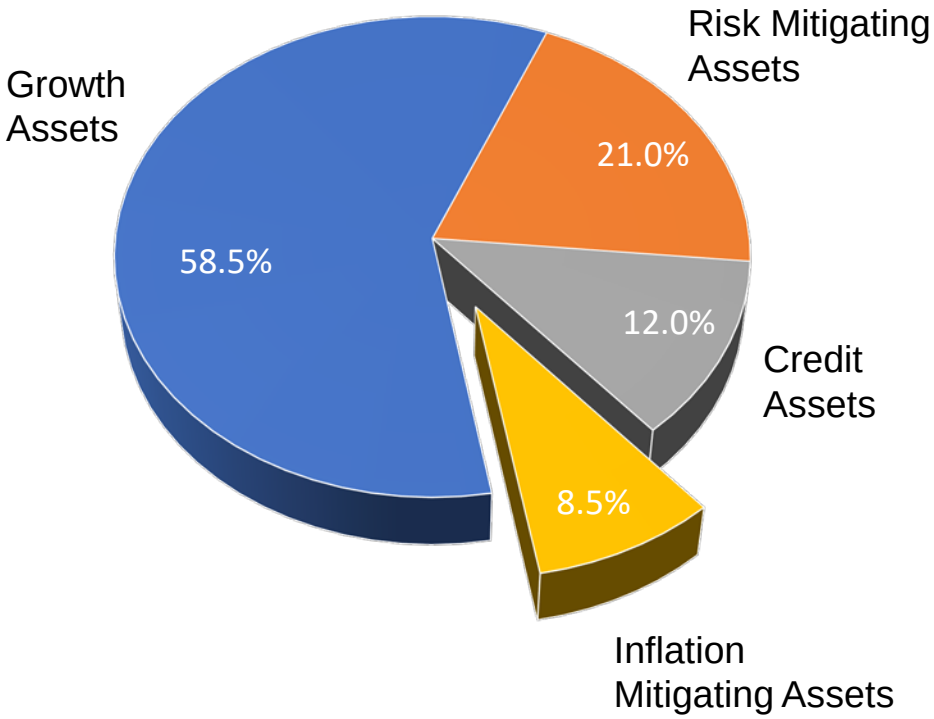
Real Assets Investments

	Asset Class	SHORT-TERM CORRELATION TO CPI	LONG-TERM CORRELATION TO CPI	HIGHER YIELD OPPORTUNITY	HIGHER RETURN OPPORTUNITY (BETA)	HIGHER ALPHA OPPORTUNITY	LIQUIDITY
PUBLIC INVESTMENTS	Treasury Inflation Protected Securities (TIPS)	X	X				X
	Commodities	X	X			X	X
	Real Estate Investment Trusts (REITs)		X	X		X	X
	Master Limited Partnerships (MLPs)		X	X	X	X	X
	Diversified Public Real Assets	X	X	X		X	X
PRIVATE INVESTMENTS	Private Real Estate		X	X	X	X	
	Timber/Farmland		X		X	X	
	Infrastructure		X	X	X	X	
	Energy (Oil and Gas)		X	X	X	X	
	Diversified Private Real Assets		X	X	X	X	

Inflation Impact Scenarios

Wilshire

IPERS Asset Allocation Policy



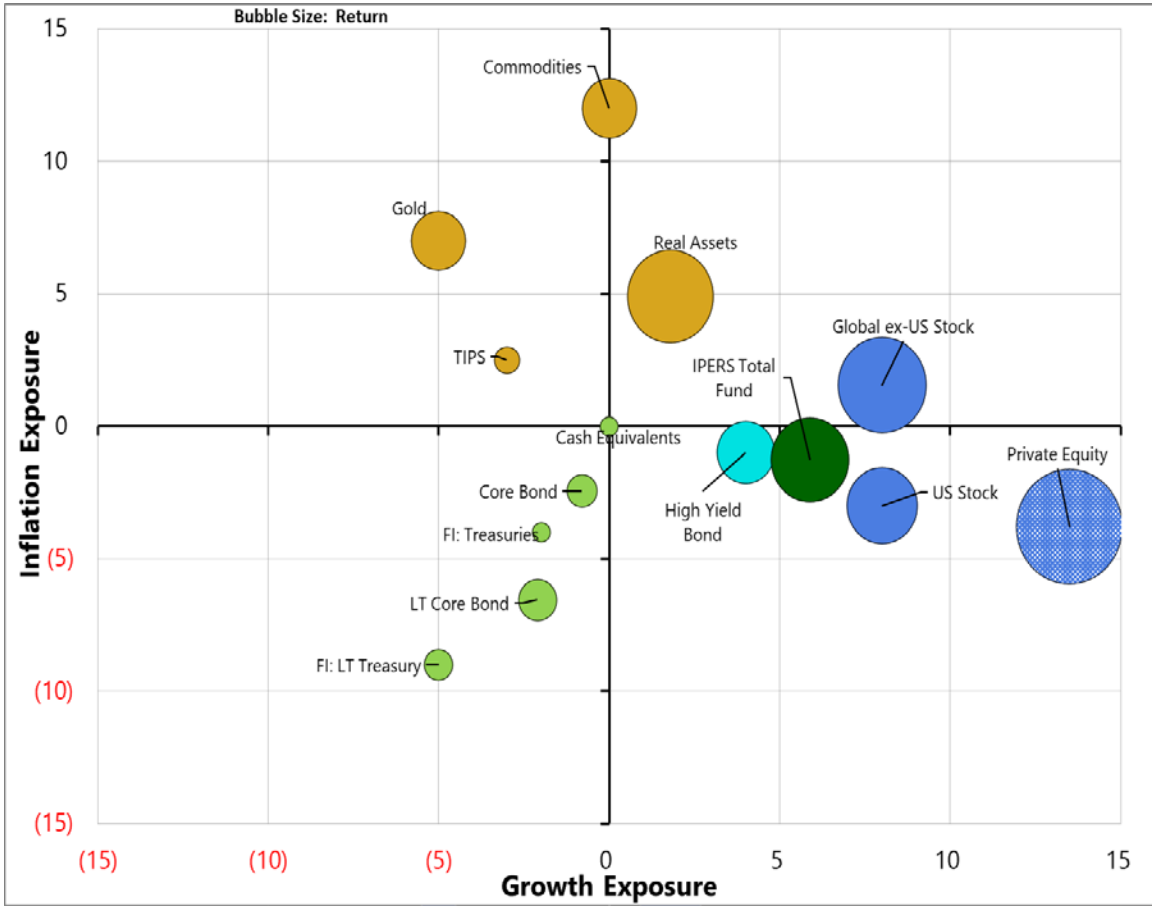
- **IPERS has a long-term target of 8.5% to Inflation Mitigating Assets**
  - Real Estate (Target 50%)
  - Other Real Assets including agriculture, timber and infrastructure (Target 50%)
- **Current allocation only consists of private assets**
- **Actual allocation falls below the target allocation (5.5% vs. 8.5% target*)**

*As of end of 2Q 2021

Current Policy

Asset Class	Current Policy
U.S. Equity	22.00%
International Equity	17.50%
Private Equity	13.00%
Global Smart Beta	6.00%
Total Growth Assets	**58.50%**
Core (Plus) Fixed Income	20.00%
Total Risk Mitigating Assets	**20.00%**
Public Credit	4.00%
Private Credit	8.00%
Total Credit Assets	**12.00%**
Private Real Assets	8.50%
Total Inflation Mitigating Assets	**8.50%**
Cash	1.00%
Total Liquidity Assets	**1.00%**
Total Assets	**100.00%**
Expected Return (30-Year)	**6.68**
Expected Return (10-Year)	**5.26**
Standard Deviation of Return	**12.01**
Sharpe Ratio (10 yr)	**0.33**

Contribution to Asset Volatility (%)	
Growth Assets	89.0%
Risk Mitigating Assets	2.3%
Credit Assets	3.9%
Inflation Mitigating Assets	4.8%
Cash Yield	2.4%
Factor Exposure_Growth	5.9
Factor Exposure_Inflation	-1.3



June 2021 Wilshire Capital Markets Assumptions

10-Year Capital Market Assumptions – Base Case

Using Wilshire's June 30, 2021 Capital Market Assumptions
(IPERS asset classes mapped into Wilshire regime segments for modeling purposes)

	U.S. Equity	International Equity	Private Equity	Global Smart Beta	Core (Plus) Fixed Income	Public Credit	Private Credit	Private Real Assets	Cash	Leverage
Expected Return (30 Yr)	6.40	7.18	9.33	6.85	3.58	5.47	5.00	6.47	2.33	2.58
Expected Return (10 Yr)	4.75	6.00	7.80	5.40	1.85	3.35	4.35	5.73	1.40	1.65
Risk	17.00	19.15	28.00	17.15	4.30	8.94	6.00	10.79	0.75	0.75
Correlation	U.S. Equity	International Equity	Private Equity	Global Smart Beta	Core (Plus) Fixed Income	Public Credit	Private Credit	Private Real Assets	Cash	Cash
U.S. Equity	1.00									
International Equity	0.83	1.00								
Private Equity	0.74	0.67	1.00							
Global Smart Beta	0.95	0.94	0.74	1.00						
Core (Plus) Fixed Income	0.28	0.09	0.31	0.20	1.00					
Public Credit	0.58	0.59	0.43	0.60	0.33	1.00				
Private Credit	0.50	0.46	0.22	0.50	0.05	0.64	1.00			
Private Real Assets	0.53	0.48	0.50	0.52	0.17	0.59	0.55	1.00		
Cash	-0.05	-0.08	0.00	-0.07	0.19	-0.08	-0.07	-0.06	1.00	
Leverage	-0.05	-0.08	0.00	-0.07	0.19	-0.08	-0.07	-0.06	1.00	1.00

Inflation Shock Simulation Background

- To assess the potential portfolio impacts from an inflationary shock, Wilshire has created custom inflation regime assumption suites for IPERS.
- Base Case Scenario is based on Wilshire's 10 year forward looking assumptions
- Inflationary Shock Scenario* assumes a one time 2.5% increase in inflation in year 1
- Inflationary and Growth Shock Scenario* assumes a one time 2.5% increase in inflation, plus growth factor shock of -1% in year 1

*Multi-year scenario results use these shock regime assumptions in year 1 and reverted to the baseline assumptions in years 2 and beyond

Alternative Portfolios

1. Unlevered Public Real Assets – “15% Hedge”:

- Reduce allocations to all public assets in the portfolio
- Allocate 15% to diversified public real assets
  - TIPS, Global REITS, Commodities, Global Listed Infrastructure, Gold

2. 33% Levered Public Real Assets – “20% Hedge”:

- Same as 1 but gain exposure to Commodities through futures, and using the cash to include additional 33% allocation to public real assets (33% levered public real assets allocation)

3. Fully Levered Public Real Assets – “30% Hedge”:

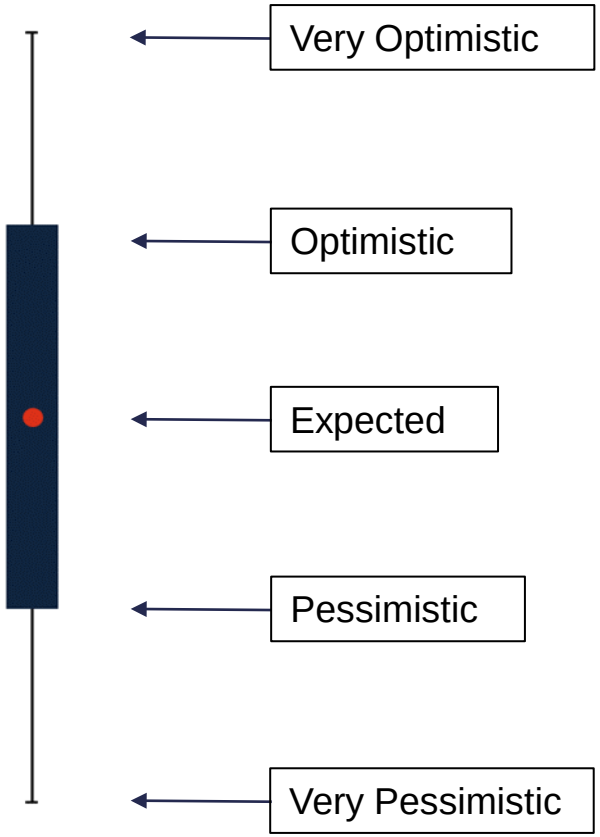
- Same as 1 but gain exposure to Commodities through futures, and using the cash to double the allocation to public real assets (100% levered public real assets allocation)

Alternative Portfolios

Asset Class	Current Policy	15% Hedge	20% Hedge	30% Hedge
U.S. Equity	22.00%	17.25%	17.25%	17.25%
International Equity	17.50%	13.75%	13.75%	13.75%
Private Equity	13.00%	13.00%	13.00%	13.00%
Global Smart Beta	6.00%	4.75%	4.75%	4.75%
Total Growth Assets	**58.50%**	**48.75%**	**48.75%**	**48.75%**
Core (Plus) Fixed Income	20.00%	15.75%	15.75%	15.75%
Total Risk Mitigating Assets	**20.00%**	**15.75%**	**15.75%**	**15.75%**
Public Credit	4.00%	3.00%	3.00%	3.00%
Private Credit	8.00%	8.00%	8.00%	8.00%
Total Credit Assets	**12.00%**	**11.00%**	**11.00%**	**11.00%**
Private Real Assets	8.50%	8.50%	8.50%	8.50%
Public Real Assets	0.00%	**15.00%**	**20.00%**	**30.00%**
TIPS	0.00%	36.07%	48.00%	72.20%
Global REITS	0.00%	23.33%	31.00%	46.60%
Commodities	0.00%	24.80%	33.00%	49.60%
Global Listed Infrastructure	0.00%	9.00%	12.00%	18.07%
Gold	0.00%	6.80%	9.00%	13.53%
Total Inflation Mitigating Assets	**8.50%**	**23.50%**	**28.50%**	**38.50%**
Leverage	**0.00%**	**0.00%**	**-5.00%**	**-15.00%**
Cash	1.00%	1.00%	1.00%	1.00%
Total Liquidity Assets	**1.00%**	**1.00%**	**1.00%**	**1.00%**
Total Assets	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Expected Return (30-Year)	**6.71**	**6.62**	**6.92**	**7.72**
Expected Return (10-Year)	**5.31**	**5.24**	**5.47**	**6.10**
Standard Deviation of Return	**12.01**	**11.12**	**11.81**	**13.99**
Sharpe Ratio (10 yr)	**0.33**	**0.35**	**0.34**	**0.34**
Factor Exposure Growth	5.89	5.18	5.23	5.37
Factor Exposure_Inflation	-1.26	-0.30	0.30	2.02

June 2021 Wilshire Capital Markets Assumptions

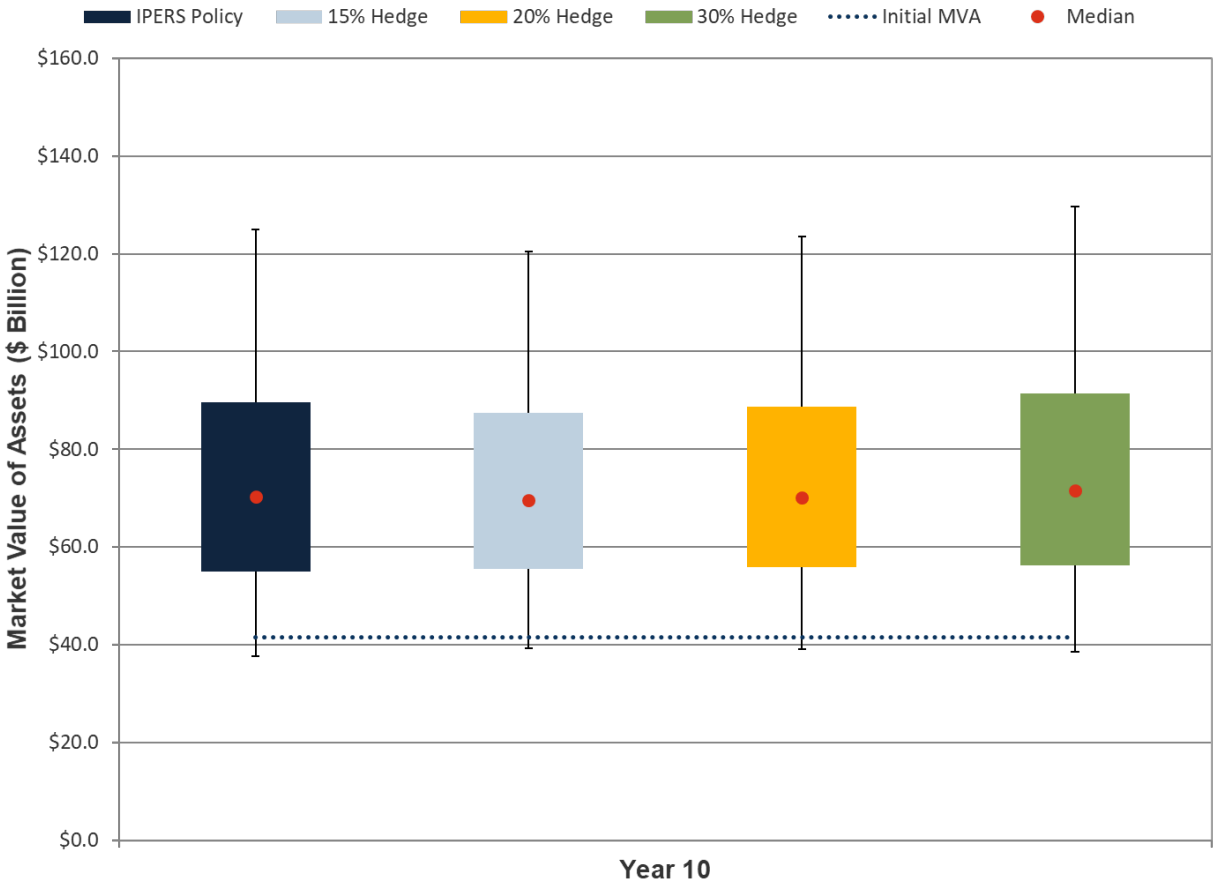
Box and Whisker Graphs



In each year of the simulation, there are 5,000 independent economic trial results.

- **Expected: 50% of the potential scenarios result in higher than this value and 50% results in lower**
- **Very optimistic: Only 5% of the scenarios result in higher than this value and 95% result in lower**
- **Optimistic: Only 25% of the scenarios result in higher than this value and 75% result in lower**
- **Pessimistic: 75% of the scenarios result in higher than this value and 25% result in lower**
- **Very pessimistic: 95% of the scenarios result in higher than this value and 5% result in lower**

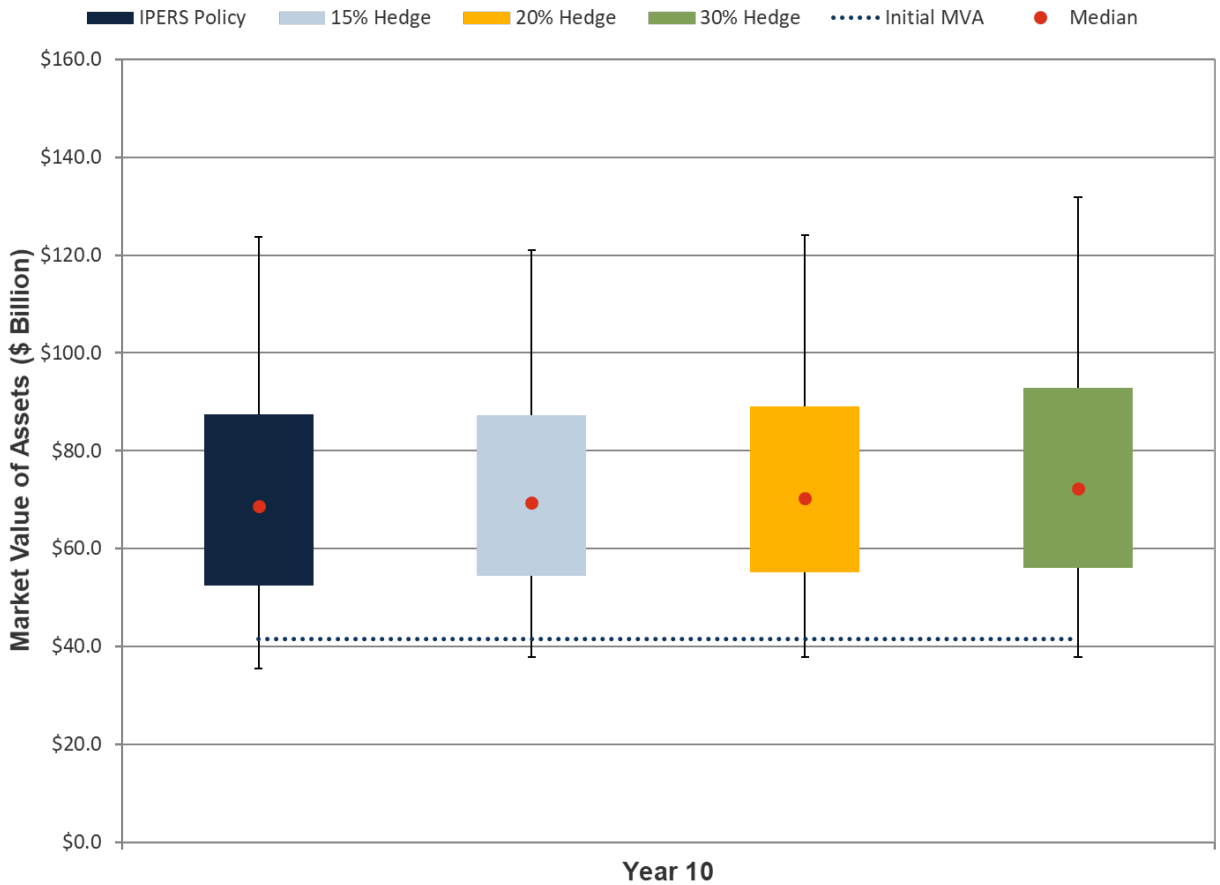
Market Value of Assets - Baseline



Initial market Value : $41.5 billion

($ Billion)	Year 10			
	IPERS Policy	15% Hedge	20% Hedge	30% Hedge
Very Optimistic	125.00	120.42	123.48	129.70
Optimistic	89.67	87.39	88.67	91.45
Median (Expected)	**70.22**	**69.58**	**70.19**	**71.47**
Pessimistic	54.92	55.55	55.88	56.28
Very Pessimistic	37.58	39.25	39.06	38.52

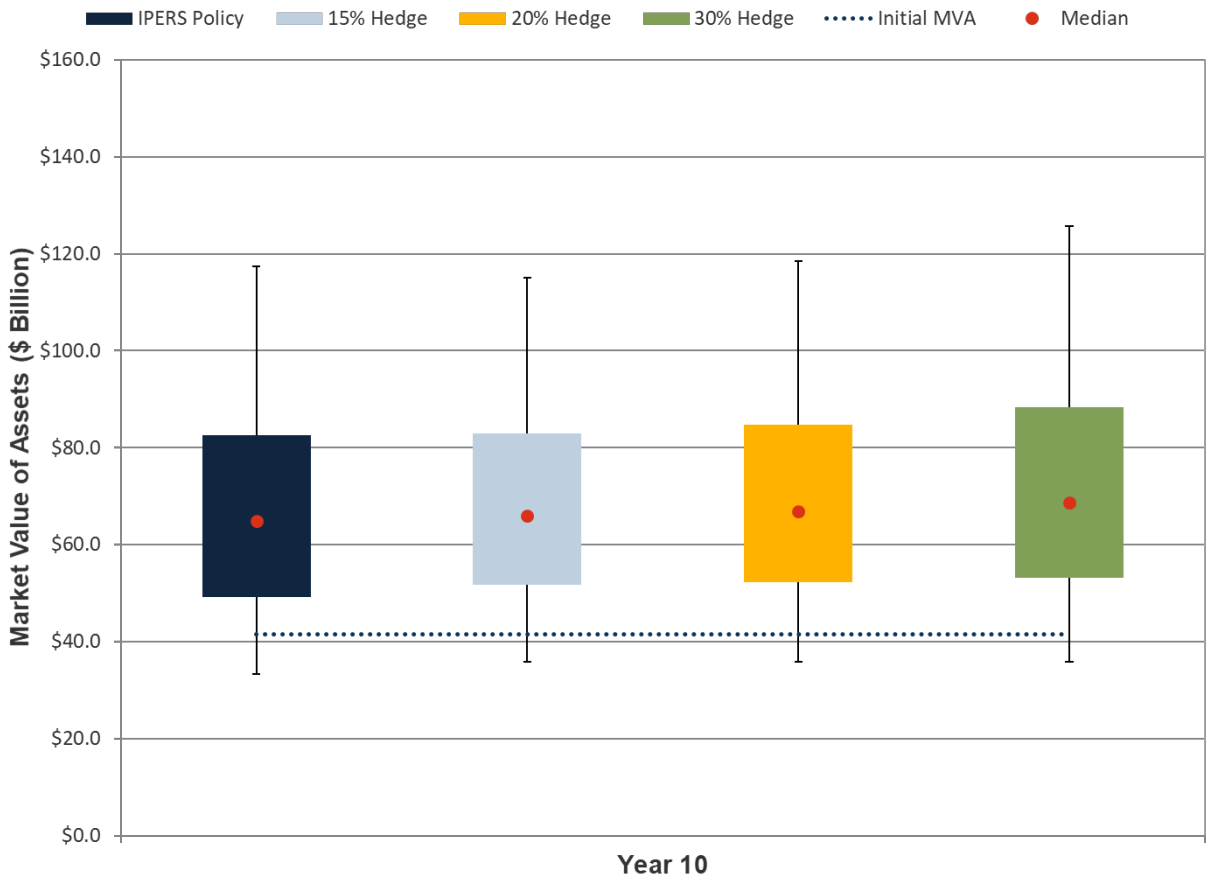
Market Value of Assets – +2.5% Inflation / 0% Growth



Initial market Value : $41.5 billion

($ Billion)	Year 10			
	IPERS Policy	15% Hedge	20% Hedge	30% Hedge
Very Optimistic	123.76	121.08	124.13	131.79
Optimistic	87.36	87.18	89.00	92.81
Median (Expected)	**68.71**	**69.38**	**70.26**	**72.33**
Pessimistic	52.38	54.50	55.07	56.10
Very Pessimistic	35.46	37.78	37.85	37.90

Market Value of Assets – +2.5% Inflation / -1% Growth



Initial market Value : $41.5 billion

($ Billion)	Year 10			
	IPERS Policy	15% Hedge	20% Hedge	30% Hedge
Very Optimistic	117.36	115.07	118.48	125.71
Optimistic	82.59	82.88	84.71	88.30
Median (Expected)	**64.81**	**65.95**	**66.78**	**68.71**
Pessimistic	49.26	51.64	52.16	53.16
Very Pessimistic	33.25	35.79	35.77	35.74

% Change in Market Value Comparison

15% Hedge - Market Value Difference vs. Current Policy in Year 10

	Base Case	2.5% Inflation	2.5% Inflation & -1% Growth
Very Optimistic	-3.7%	-2.2%	-2.0%
Optimistic	-2.5%	-0.2%	0.4%
Median (Expected)	-0.9%	1.0%	1.8%
Pessimistic	1.2%	4.1%	4.8%
Very Pessimistic	4.4%	6.5%	7.6%

20% Hedge - Market Value Difference vs. Current Policy in Year 10

	Base Case	2.5% Inflation	2.5% Inflation & -1% Growth
Very Optimistic	-1.2%	0.3%	0.9%
Optimistic	-1.1%	1.9%	2.6%
Median (Expected)	0.0%	2.3%	3.0%
Pessimistic	1.8%	5.1%	5.9%
Very Pessimistic	4.0%	6.7%	7.6%

30% Hedge - Market Value Difference vs. Current Policy in Year 10

	Base Case	2.5% Inflation	2.5% Inflation & -1% Growth
Very Optimistic	3.8%	6.5%	7.1%
Optimistic	2.0%	6.2%	6.9%
Median (Expected)	1.8%	5.3%	6.0%
Pessimistic	2.5%	7.1%	7.9%
Very Pessimistic	2.5%	6.9%	7.5%

Observations & Considerations

Wilshire

Inflation Shock Study Outcome

- The scenarios are meant to show relative potential differences in outcomes for **illustrative purposes**
  - There are significant assumptions embedded in these scenario outcomes (e.g. magnitude and timing of inflation and growth shocks, the timing of recovery and auxiliary impact to other parts of the capital markets)
- These illustrations show that adding exposure to public real assets is materially additive to the market value in **pessimistic** market scenarios
- Leverage helps boost the expected return even with diversifying allocations to public real assets across different market scenarios
- In an inflation shock scenario, while these inflation hedges can provide some protection, the portfolio's biggest vulnerability will be in growth assets

- The impact from equity market sell-off will far outpace the benefits of inflation hedge

Conclusions

- IPERS strategic asset allocation is built to be diversified
  - Real assets allocation of 8.5% is meant to provide inflation mitigation
- There are trade-offs to hedge against specific exposure
  - Liquid real assets tend to have lower yield or higher volatility compared to illiquid real assets
  - In order to reach / maintain a targeted level of expected return, leverage needs to be considered
- If the Board sets long term inflation mitigation as a priority, the strategic allocation should be changed to include more inflation hedging assets
- If the concerns are short term, a short-term hedging program can be implemented but would require governance framework
  - Decision-making, performance evaluation, risk guidelines, etc.
- Wilshire recommends that the Board maintain a strategic, diversified and long-term view regarding its allocations
- Wilshire and Staff will keep the Board apprised of increased concerns over inflationary risk and resulting portfolio vulnerabilities