

Investment Governance Workshop for BPJS

Day 3: Case Studies, liabilities, international practice and trends

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We will cover

Review of investment objectives

Six key trends with focus on Liability Driven Investment

Best international practice and benchmarking

Feedback from case studies

Solutions and next steps : discussion of subsequent work and knowledge transfer

▶ **Process of setting the SAA within a SSI**

- 1. Mission, beliefs and (risk/return/other) objectives of the SSI defined and signed off**
- 2. Summary of constraints – liability profiles from the actuarial valuation and other restrictions**
- 3. Data collection on asset classes (risk and return plus other characteristics)**
- 4. Setting assumptions with approval from the SSI**
- 5. Collection and analysis of relevant international experience**
- 6. Analysis of different SAA options based on a standard risk & return methodology (eg Mean Variance Optimisation)**
- 7. Recommendations based on the above steps**
- 8. Implementation procedures including transition (depends on governance capacity)**
- 9. Ongoing measurement, review and re-assessment**

► What are your investment objectives for the BPJS schemes?

- Are they reasonable, realistic, and implementable?
- Are returns measurable and comparable?
- Measures of risk ?
- Are they consistent?
- Do they take into account liabilities ?
- How many objectives should a fund have and at what level of detail are they most useful?

► And how do you measure them ?

Risk metrics used ?

Return Metrics used ?

Return Objective Metrics

- *Nominal return-asset class & total fund
- *Real return-asset class & total fund
- *Total return: Income + growth
- *Risk free rate
- *Equity risk premiums
- *Real asset risk premiums
- *Absolute return
- *Asset class benchmarks returns
- *Target minimum return
- *Active management return target over benchmarks' returns: 'manager alpha'

Risk Objective Metrics

- *Total fund standard deviation
- *Asset class standard deviation
- *Total fund Value at Risk (VaR)
- *Asset class absolute and marginal VaR
- *Active management tracking error
- *Manager information ratio
- *Sharpe ratio
- *Sortino ratio
- *Upside and downside capture ratios
- *Illiquidity budget
- *Inflation risk budget



Investment
Constraints
Metrics

- *Liquidity needs
- *Time horizon
- *Legal and regulatory
- *Limiting investment beliefs
- *Risk tolerance

Typical SSI objectives

	Compenswiss	Future Fund (AUS)	Super Fund (NZ)	AP3 (Sweden)
Investment Objective	CPI + 160/120bp	CPI + 450bp	Base + 250bp	CPI + 400bp
Risk Metric used	Vol, VaR	Vol, VaR	Vol	Vol, VaR
Time horizon	5 years	10 years	20 years	3 years

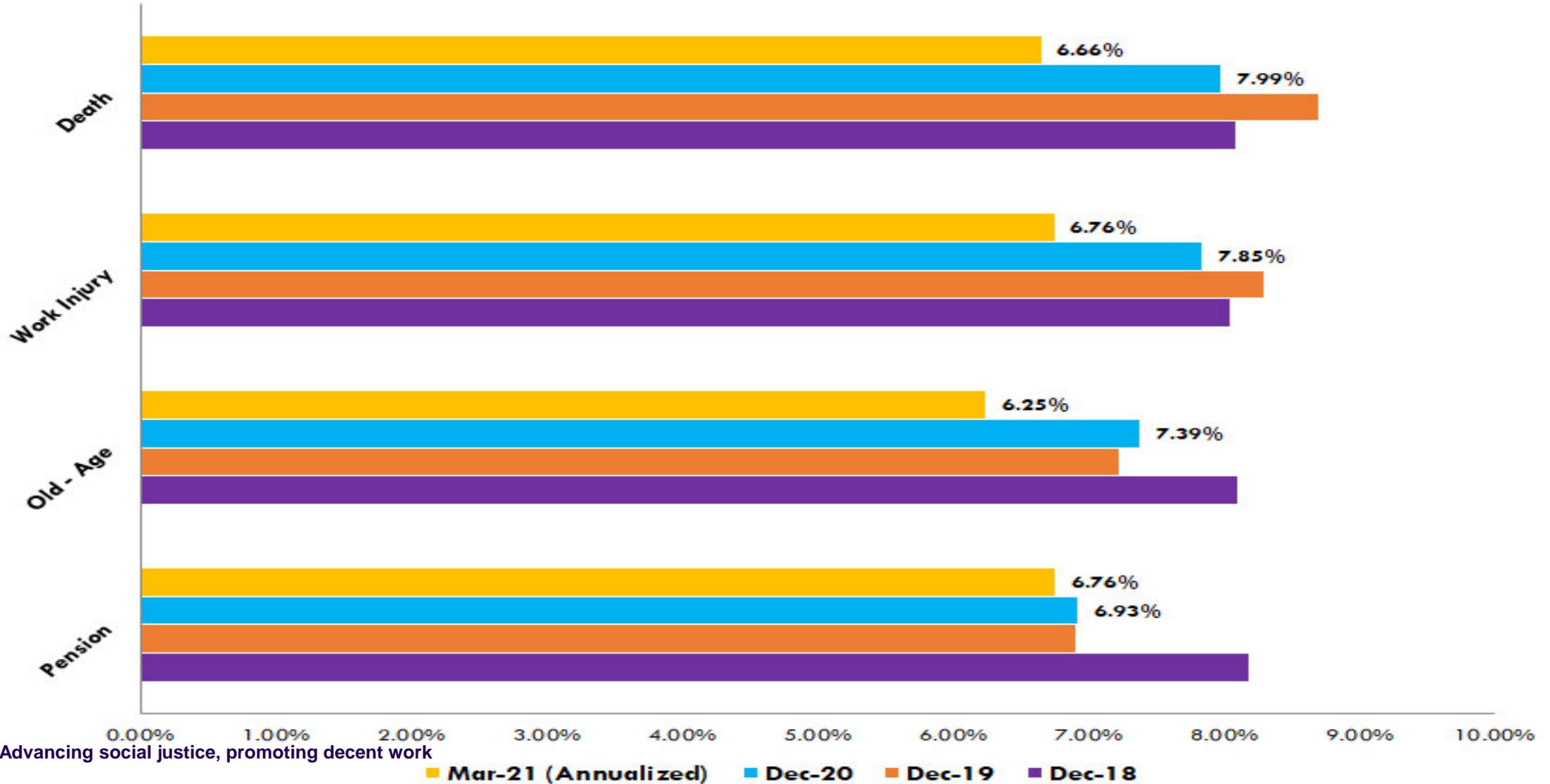
**Are your return, risk objectives and time horizon appropriate ?
How does this interact with consideration of the liabilities ?**

BPJS Schemes

Scheme	Liability characteristics	Other constraints	Investment Time horizon	Risky assets %
JP				
JHT				
Work Injury				
Death				
UI				

Is this what you would expect ?

Returns on different BPJS Schemes



► Six trends in social security reserve fund investment

1. Liability driven investment
2. The added value of Governance and its communication
3. Low interest rate environment
4. Infrastructure investment
5. ESG
6. Increasing foreign investment ?

► **Guideline 6. Taking into Account Liabilities and Funding Policy in Determining Investment Policy**

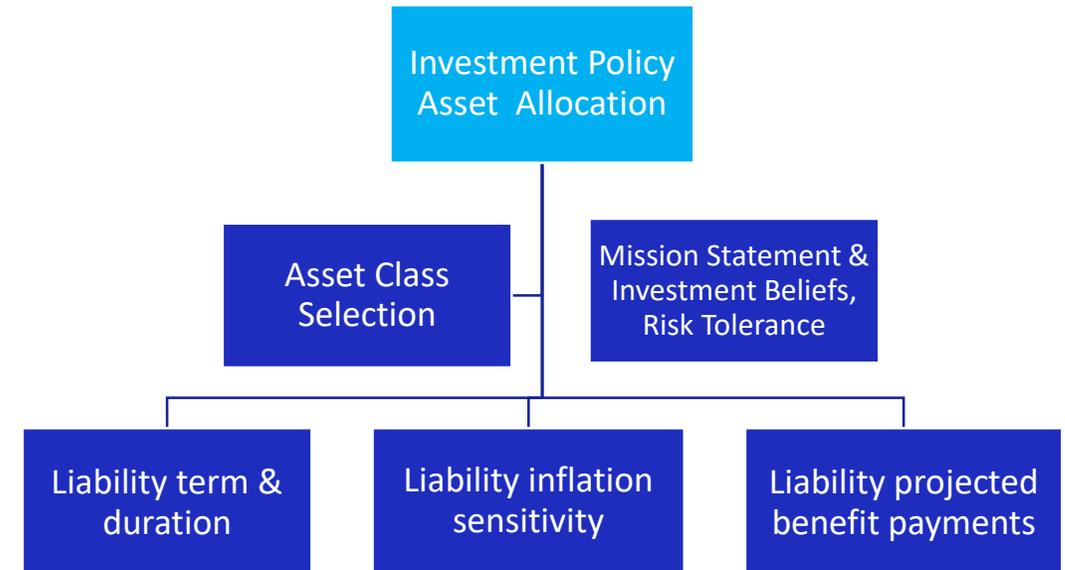
- Investment decisions and strategy take into account the level and timing of liability cash flows.
- Actuarial *modelling* of long-term liabilities should be undertaken
- Funding policy will affect the investment policy and strategy.
- Proposed return target and risk management should be prepared by management and approved by the board.

Modelling is referred to in general terms. There is nothing imposed regarding methods.

Liability Driven Investment Approach for SSIs

- Longer time horizon implies more risk-seeking, non-bond assets such as equities and real assets, whereas shorter time horizon implies less risk assets.
- Inflation sensitivity implies inflation-linked bonds, real assets (real estate, infrastructure, etc.) and equities.
- Cash flow needs imply more bonds and cash flow generating real assets.
- Risk tolerance and investment beliefs affect diversification and appropriate level of risk assets.

- Long term fund typically will have >30-40% risky assets
- Medium term funds typically will have 10-20% risky assets
- Short term funds will typically have <10% risky assets



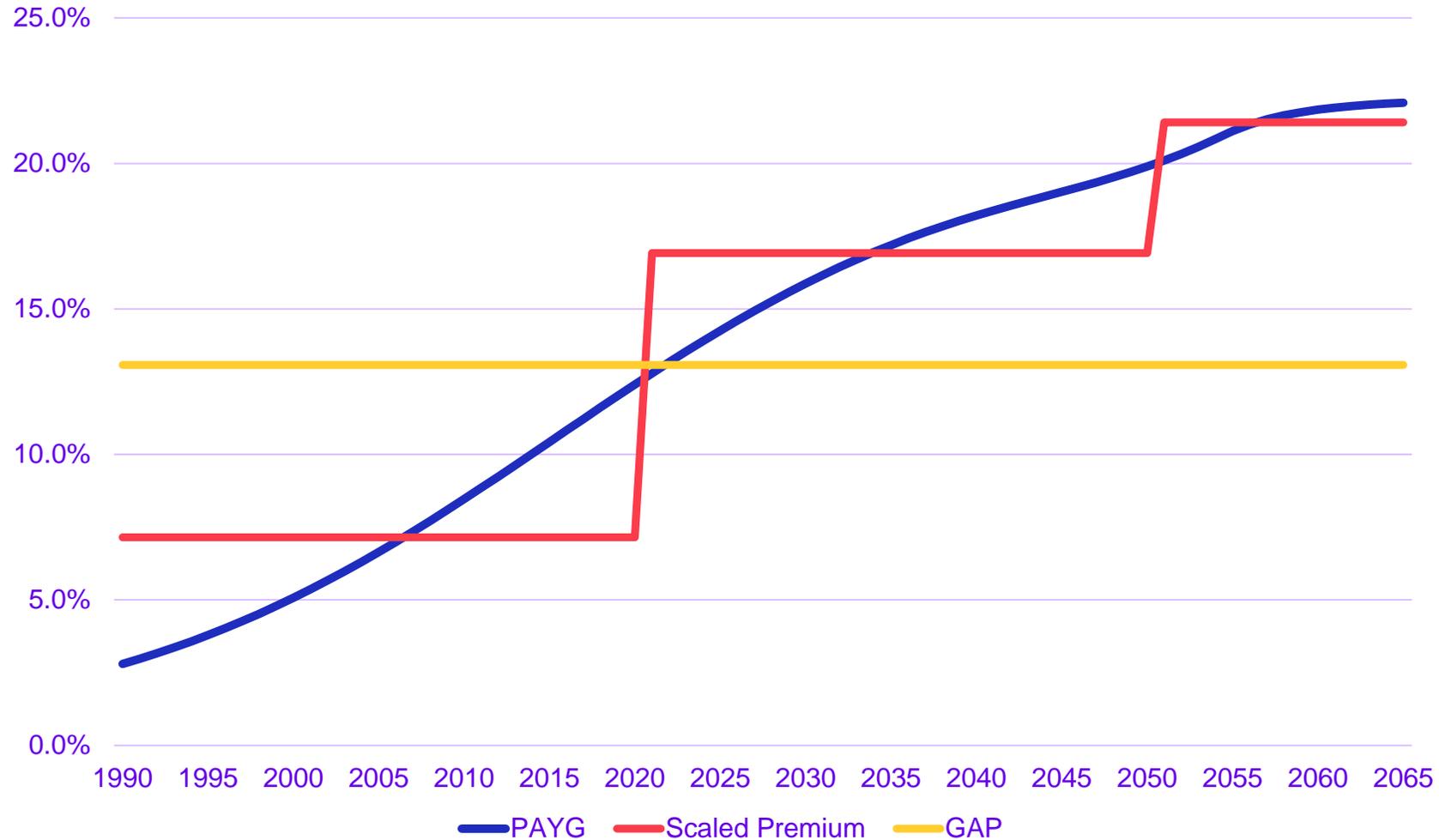
Overall 20% of BPJS funds in risky assets

Question

How should you take into account liabilities?

Financing of Pension Schemes

PAYG vs GAP vs Scaled Premium approaches



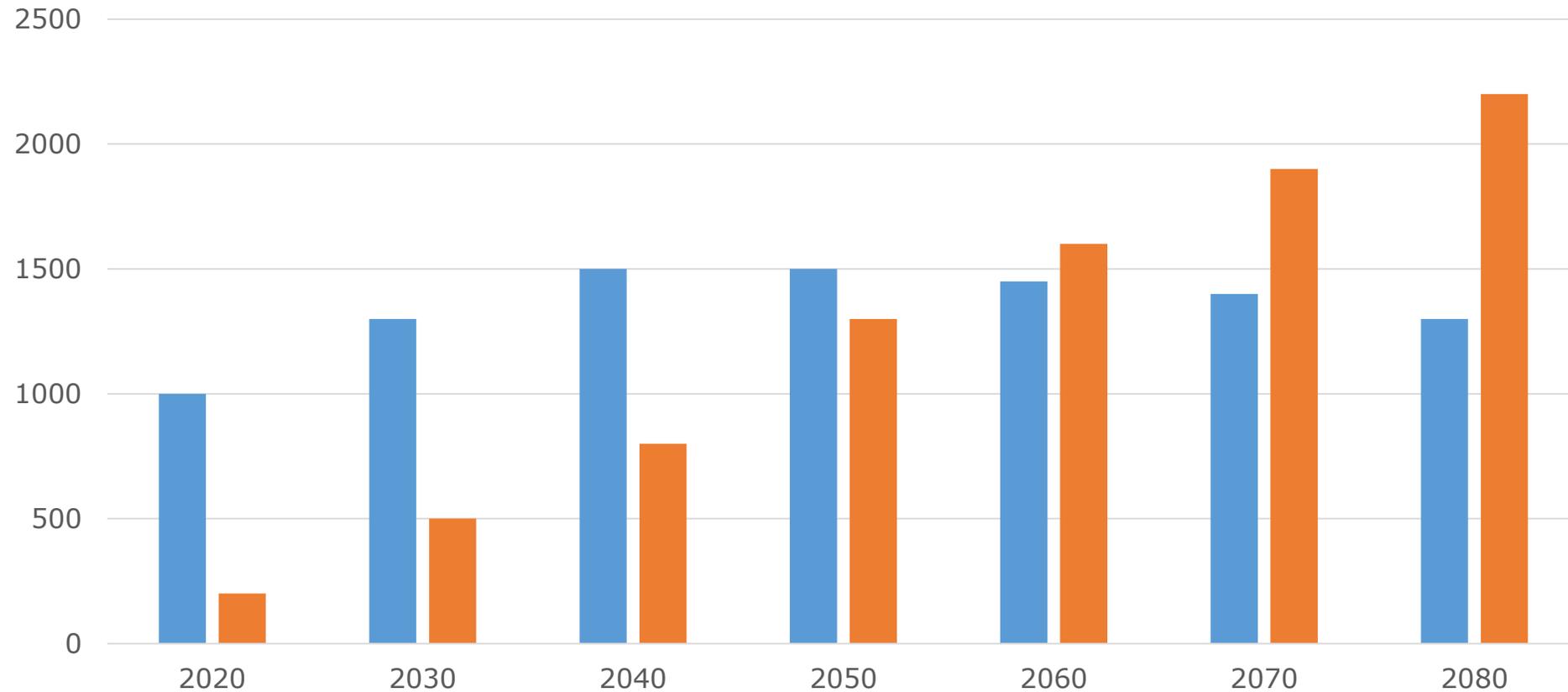
You are Head of Investment at a social security system with two different schemes.

The actuary has produced projected cash flows for the two schemes which are set out below. You are responsible for suggesting an investment strategy based on these cash flows

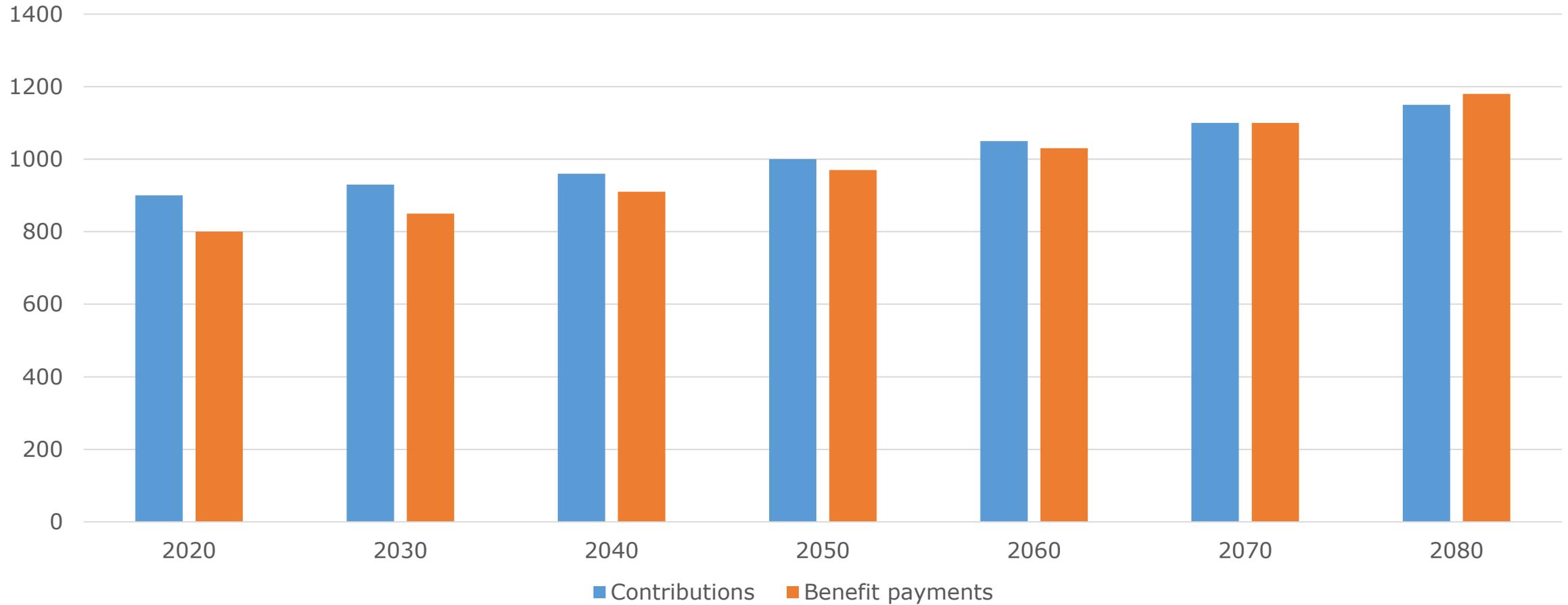
For each scheme, recommend an appropriate asset allocation (% of total assets in each asset class) with a short justification.

- Cash
- Domestic government bonds
- Domestic corporate fixed interest bonds
- Foreign government bonds
- Foreign corporate fixed interest bonds
- Domestic real estate
- Domestic listed equities
- Domestic unlisted equities
- Infrastructure
- Foreign equities

Scheme 1: Contributions vs Benefit payments



Scheme 2: Contributions vs Benefit payments



▶ Liability profiles and investment impact

Outcome of your discussions

Recommended SAA for each scheme

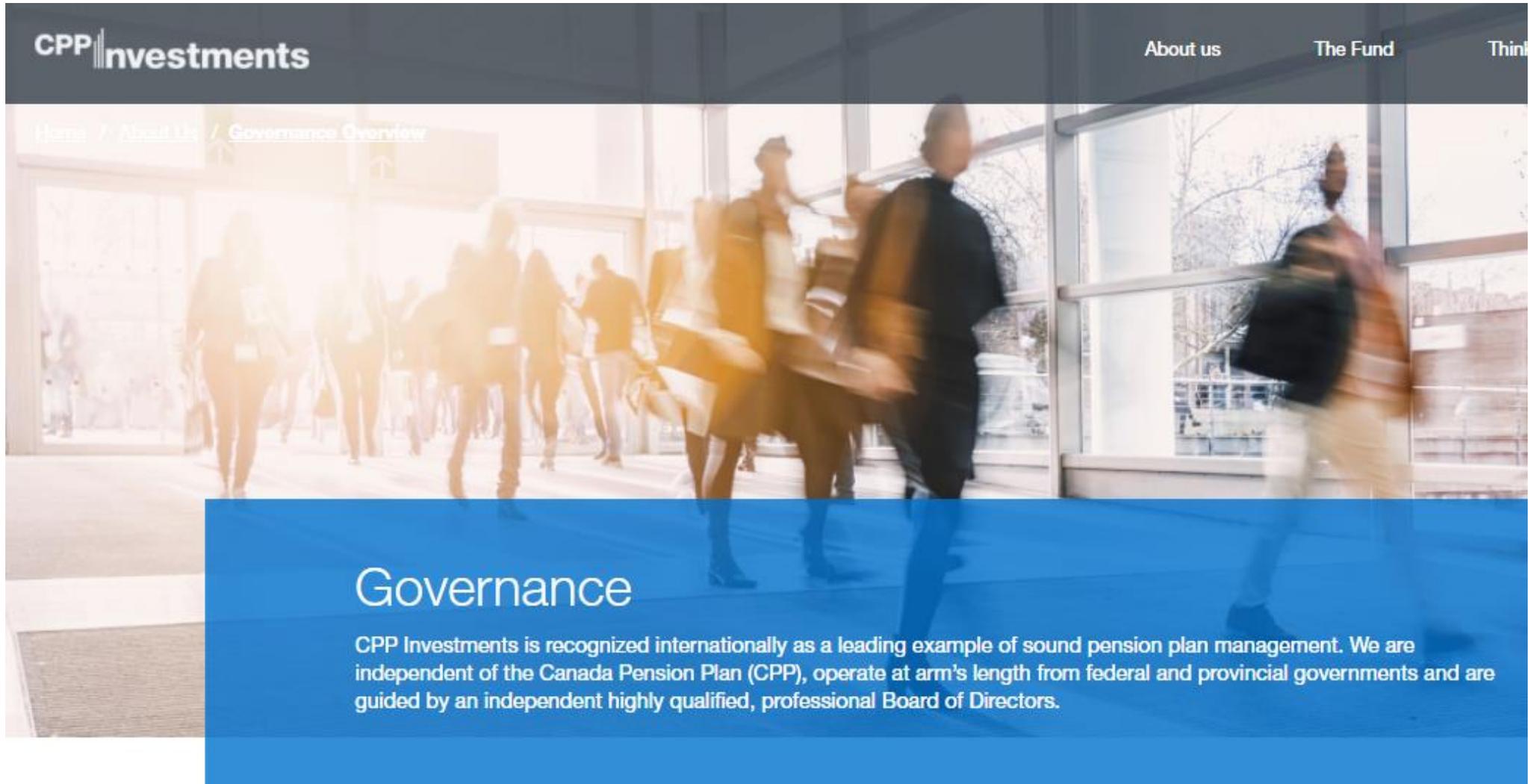
What other considerations ?

Are you doing this for BPJS schemes ?

US 10 year Government Bond Yields – roughly rounded

Year	10 year US Bond Yields
1981	15%
1991	8%
2001	5%
2011	3%
2021	1%

The added value of Governance and its communication



CPP Investments

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Governance

CPP Investments is recognized internationally as a leading example of sound pension plan management. We are independent of the Canada Pension Plan (CPP), operate at arm's length from federal and provincial governments and are guided by an independent highly qualified, professional Board of Directors.

Infrastructure investment



TECHNICAL REPORT



► Infrastructure Investment

1. Low and negative interest rates
2. Overvaluation of equity and property assets
3. Difficulty of finding sufficient and appropriate income generating assets

 an increase in social security reserve fund assets dedicated to infrastructure investment.

Potentially good match of supply and demand

But management of risks (eg construction, voids, third party risks) critical

Environmental

- Related to climate change, pollution and bio diversity
- Eg avoiding coal miners; investing in renewable energy

Social

- Supporting well being of workforce, communities and society
- Eg: avoiding use of child labour; investing in companies who support charities

Governance

- Ethical and transparent management
- Eg: responsible pay, ownership etc

▶ ESG and PRI

The UN Principles for Responsible Investment were launched in 2006

Set out principles, evidence and plans for implementation

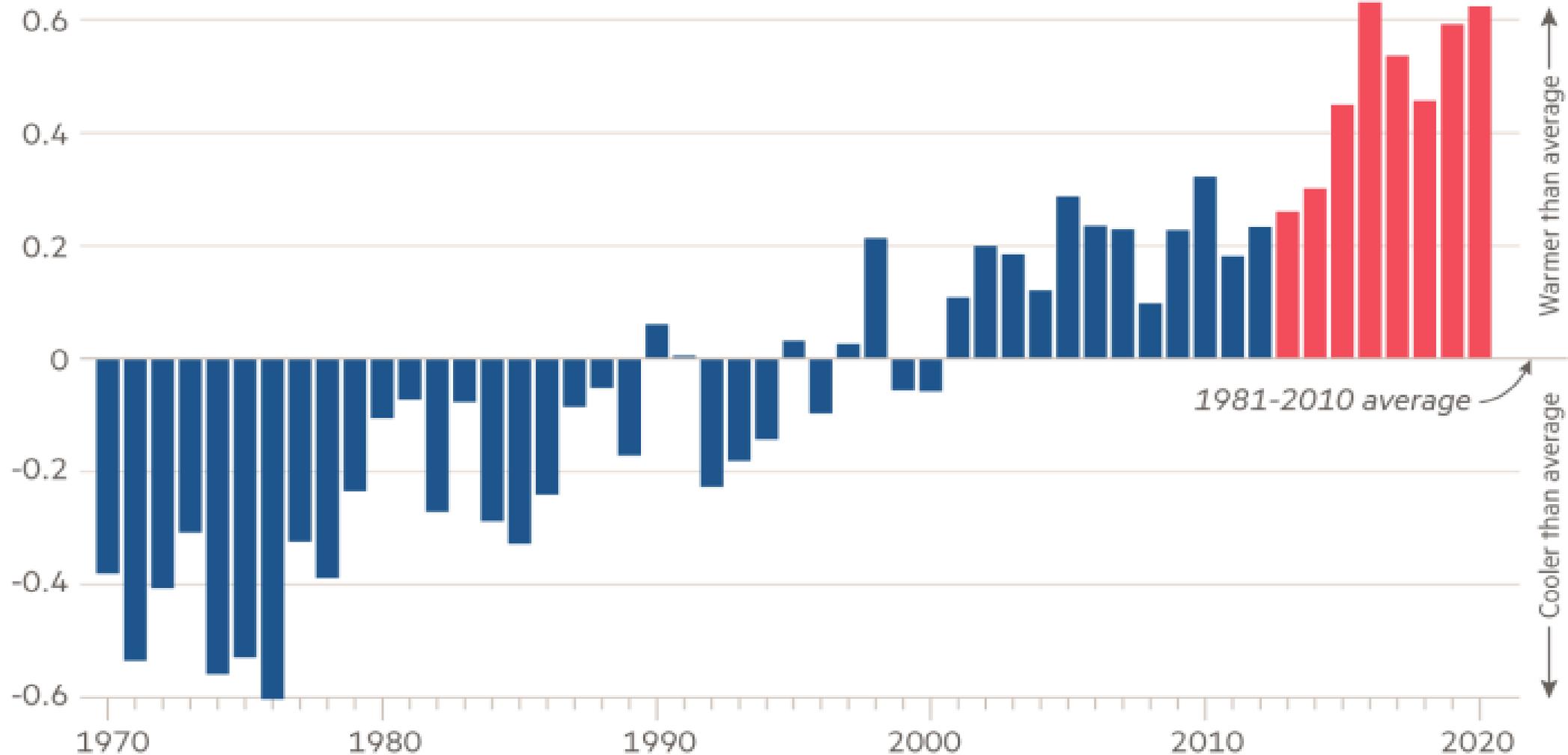
Most leading institutions and managers have signed up: nearly 200 in Asia .

There is an increasing supply of sustainable and climate investment funds. To be an ASEAN leader, ESG integration is essential

Consistent with national climate change plans

8 of the 10 warmest years on record have occurred in the past decade

Annual global average surface temperature, relative to 1981-2010 (C)



▶ External versus Internal Investment Managers

What are the advantages of external managers ?

And the disadvantages ?

Typical practice ?

▶ Investing in domestic markets versus increasing foreign investment

Domestic Markets

May know markets better

No currency risk

Lower costs

Broader investment aims / supply of capital

Reduction in risk ?

Foreign Investment

Better risk and return profile

Diversification

Buying into emerging markets with different growth prospects

Asset classes that don't exist domestically

More efficient markets

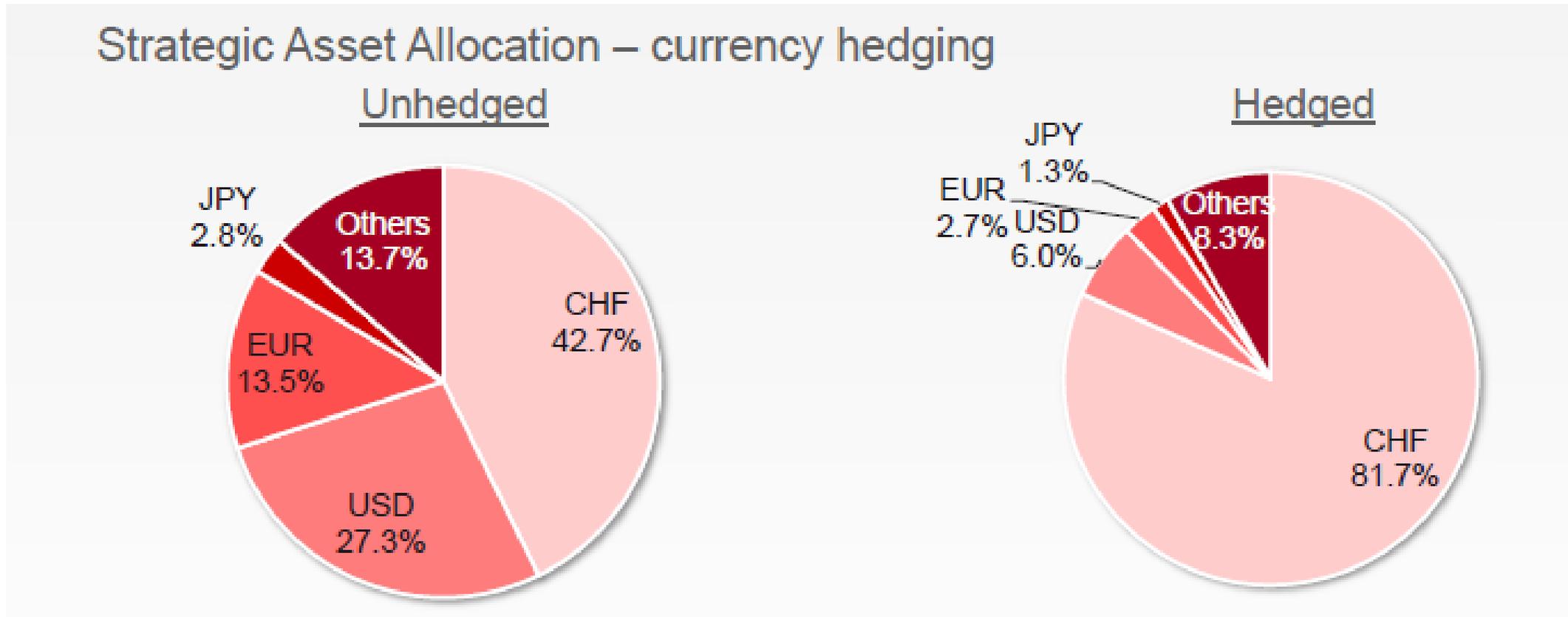
Currency performance possible

Avoids distortion of local markets

Where are other social security funds investing?

Asset Class	Japan	South Korea	Sweden	Switzerland	Thailand
Domestic Bonds	27%	42%	11%	19%	73%
Foreign Bonds	23%	6%	18%	41%	7%
Domestic Equity	24%	17%	14%	25%	13%
Foreign Equity	26%	22%	33%		4%
Private Equity		13%	24%		
Other				15%(real estate/metal)	4%

Foreign investment and currency hedging



A top-down view of a cup of tea. The cup is white with a blue rim and is filled with a golden-brown liquid. It sits on a light-colored burlap fabric. Surrounding the cup are various tea ingredients: a wooden spoon filled with dark, twisted tea leaves to the left; several dark, elongated tea buds; pieces of dark, layered bark; and other small, dried botanical elements scattered around. The text "10 minute tea break" is centered over the cup in white.

10 minute tea break

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► Governance Structures

Why are these important ?

SAA considerations are pointless unless these are put in place and are optimal

▶ Case Studies

Case Study 1: Governance Principles

Group 1 and 2: MISSION AND OBJECTIVES

Group 3 and 4: INVESTMENT BELIEFS

Case Study 2: Governance Structures

Group 5 and 6: GOVERNANCE STRUCTURES & RESPONSIBILITIES OF EACH BODY

Group 7 and 8: FUNCTIONALITY OF EACH BODY

▶ Case Studies

We split into groups of 4 so that we had 8 groups

Presentation of each group

▶ Case Study 1: Part I

BACKGROUND

1. Looking over the 25-year history of the fund, are the periods between significant mission changes appropriate?
2. Consider the above trigger points for review and change – are they appropriate?

MISSION AND OBJECTIVES

3. Discuss the appropriateness of each mission statement above.
4. Discuss the appropriateness of each objective above.
5. Consider alternative mission statements that could be applicable both at fund inception, seven years ago and after the current review. Consider accompanying objectives at all three stages.
6. In order to implement a mission statement and objectives, what are the processes that should take place?

▶ Case Study 1: Part II

INVESTMENT BELIEFS

7. Considering the investment beliefs as a whole, identify the areas of consistency and any of potential conflict or disagreement. What are the key elements in belief statements that have to line up for them to be most effective?
8. Are there any areas that are missing from the beliefs? Are there any elements which are unnecessary? What would you add or take away?
9. To what extent should investment beliefs build in flexibility, or the ability to apply across multiple scenarios?
10. Do you agree with the beliefs? What would you change if re-writing the statement yourself?
11. What represents a good process around creating beliefs and transferring them into the investment strategy?
12. What is needed for beliefs to be a success? What role do they play in an organisation?

Case Study 1: Key points

INVESTMENT MISSION and OBJECTIVES

Mission should be closely linked with the identity and culture of the organisation

Basis and input into the investment objectives but the two should be distinct – this isn't the case here where the mission and objectives are blended

Should be stable and changed only infrequently – success judged over 10+ years

Objectives should be SMART; mission should be clear

Should be reviewed regularly & appropriate triggers (to review) defined in advance

Case Study 1: Key points

INVESTMENT BELIEFS

Underlie almost everything the investment function does

Objectives should be checked back against beliefs especially when there is a change (eg external management)

Right balance between narrow and broad

Are they all beliefs ?

Case study example

Some inconsistencies (eg belief 9 and 11)

Beliefs should be stronger around controversial areas (eg active management)

Also could add more beliefs around governance and external managers

▶ Case study 2 : Part I

GOVERNANCE STRUCTURES

1. Discuss the original Board-ISC set-up of the fund. What are its strengths and weaknesses?
2. Discuss the evolved governance set-up with the Board, IC, and internal team. Is this an improvement?
3. What elements are missing from the current set-up that you would include?

RESPONSIBILITIES OF EACH BODY

4. Are the reporting lines of each body appropriate and effective?
5. Discuss the use of external experts and their roles within the governance structures.
6. Construct an idealised responsibilities matrix, using the structures in place at the fund currently, as well as any additions from question 3.

▶ Case Study 2: Part II

FUNCTIONALITY OF EACH BODY

7. What is the best level of influence that each body has in directing the investment activities of the fund?
8. How should each body interact with each other, and what are the best outcomes of this?
9. What skills should be present at each level of the organisation?
10. How do you ensure that these skills are present when selecting members of each body?
11. What role should training play in the organisation?

▶ Case Study 2: Key points

GOVERNANCE STRUCTURES

No definitive right and wrong answers to governance structures but should reflect fund's context.

But important to have at least 4-6 members and half independents

Governance budget, expertise and speed of decision making other factors

Possible additions to structure proposed include:

- ▶ Supervisory Board (a body above the Board that monitors its effectiveness and impact)
- ▶ Audit Committee
- ▶ ALCO (asset and liability committee)
- ▶ Risk Committee

▶ Case study 2: Key points

RESPONSIBILITIES OF EACH BODY

For each body, define in the ToRs who is their primary responsibility and duty due to and what are the reporting lines and frequency

External expertise should fill knowledge gaps & provide impartiality

FUNCTIONALITY OF EACH BODY

Balance between board and executive

Too much in the former -> too rigid

Too much in the latter -> lack of control and oversight

Skills need to be recruited (key role for nominations committee)

Or trained up (Strategic at board level; operational at executive level)

▶ **ALM – is it really useful ?**

What is the difference between ALM and LDI ?

Can you undertake ALM in a partially funded social security scheme ?

What use is ALM in a provident fund such as the JHT ?

► Your questions

1. **Difference between ALM in social security institution and the private sector in relation to:**

1. - Type of risks
2. - Asset profile
3. - Liability profile
4. - ALM process
5. - Organization structure
6. - Stakeholders

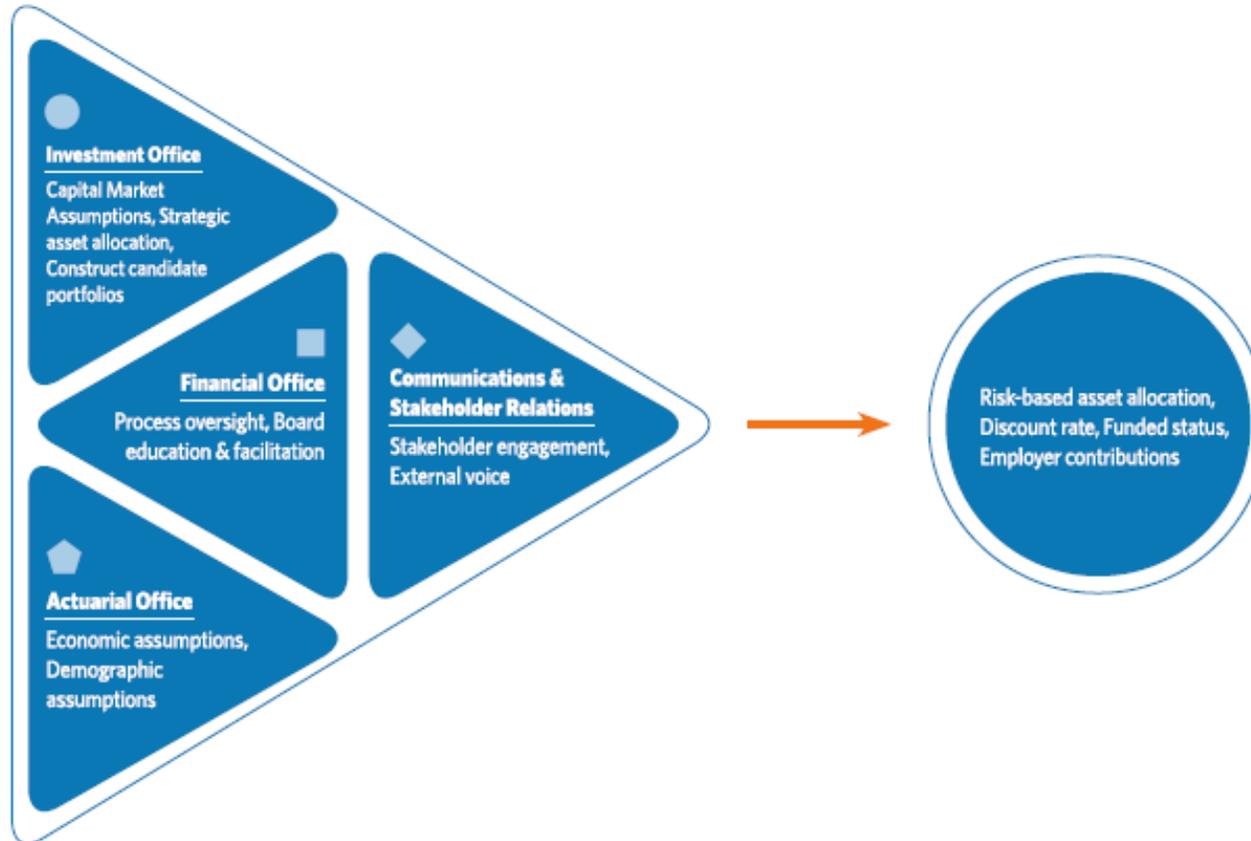
[Asset Liability Management \(ALM\) – CalPERS / CalPERS review of its investment strategy and actuarial assumptions | CalMatters](#)

2. **Examples of recommendations of the right ALM process in social security and its organization structure.**

3. **What is the correct process to set investment target according to ALM concept?**

4. **What is the position of ISSA Guidelines (investment and actuarial) with regard to good ALM application in social insurance? Can it force all parties, including regulator to adopt them in every regulations that are enacted?**

Key Functions within the ALM Process



Fundamentals of
Process similar
Specifics are of
course different

▶ Examples

SSI short term fund

“The role of each fund is to cover any negative cash flow occurring over a period of 5 years as defined by the Board of Directors”

The Risk budget is such that: $P(\text{Funding Ratio} < 1) \leq 5\%$

SSI Long Term Fund

The return objective is set at 4% over a 5 year period with a VaR of -7%

▶ Next Steps on the Project

We received your request for additional issues to be covered under the Project

These are mainly focused on the SAA process, setting objectives, assessment of liabilities and impact on SAA and the use of LDI / ALM

We will use these to fine tune the project of work for the months ahead

Thank you

Simon Brimblecombe