



Kamome Research & Consulting

Tokyo University of Science Graduate School

"Alternative Investments and Modern Management"

Alternative Investments in Pension Management and Implications for Corporate Management

Kamome Research & Consulting Co., Ltd.

Takashi Kisu, President and CEO

May 1, 2026



About Us

Kamome Research & Consulting Co., Ltd.

is a research and consulting firm specialized in asset management and corporate pensions, established in August 2025.

Our mission is to deliver the best interests to our clients, leveraging **Independence & Neutrality**, **Specialized Expertise**, and **Cutting-edge AI Capabilities** as our core strengths.

Independence

Objective viewpoint;
avoidance of conflicts of interest

Expertise

Deep knowledge
and extensive experience

AI

Data analysis
and optimization

→ **Maximum value to our clients**



Part 1

Japan's Pension System



Japan's Three-Tier Pension System

Tier 3 (Private pensions)

Individual-type DC (iDeCo) — 3.28 million members

Defined Benefit (DB)
9.03 million members

Corporate-type DC
8.30 million members

Other

Tier 2 (Public pensions)

National Pension Fund
0.33 M

Employees' Pension Insurance — 46.72 million
(private-sector employees 42.11 M, public servants etc. 4.61 M)

Tier 1 (Public pensions)

National Pension (basic pension) — 67.45 million members

Category 1
(self-employed)

Category 2
(private-sector employees / public servants)

Category 3
(dependent spouses of Cat. 2)



Public Pension vs. Corporate Pensions (DB vs. DC) — Basics

- DB pension benefits are not directly affected by investment performance. Good or bad, benefits stay the same; the obligation to honor them rests with the sponsor.
- DC, by contrast, passes investment results directly through to plan members.

	Public Pension (Employees' Pension)	DB (Defined Benefit)	DC (Defined Contribution)
Contributions	Avg. standard remuneration × premium rate	Variable, per the assumed interest rate	Fixed
Benefits	Earnings-related portion: standard remuneration × accrual rate × coverage period	Fixed	Variable, per investment performance
Impact of poor investment performance	GPIF manages reserves; pay-as-you-go basis, no short-term impact	Higher contributions; employer's labor and retirement- benefit costs increase	Pension balance receivable at retirement is reduced



Trends in Corporate Pension Plans

- Among Tier-3 private pensions, defined contribution (DC) plans are becoming the centerpiece.

Overview of DB and DC

Defined Benefit (DB)

- Sponsor commits to benefit terms upfront; employees receive benefits after retirement.
- The sponsor manages the assets centrally.
- Constitutes a liability for the sponsor; retirement-benefit obligation recognized on the balance sheet.

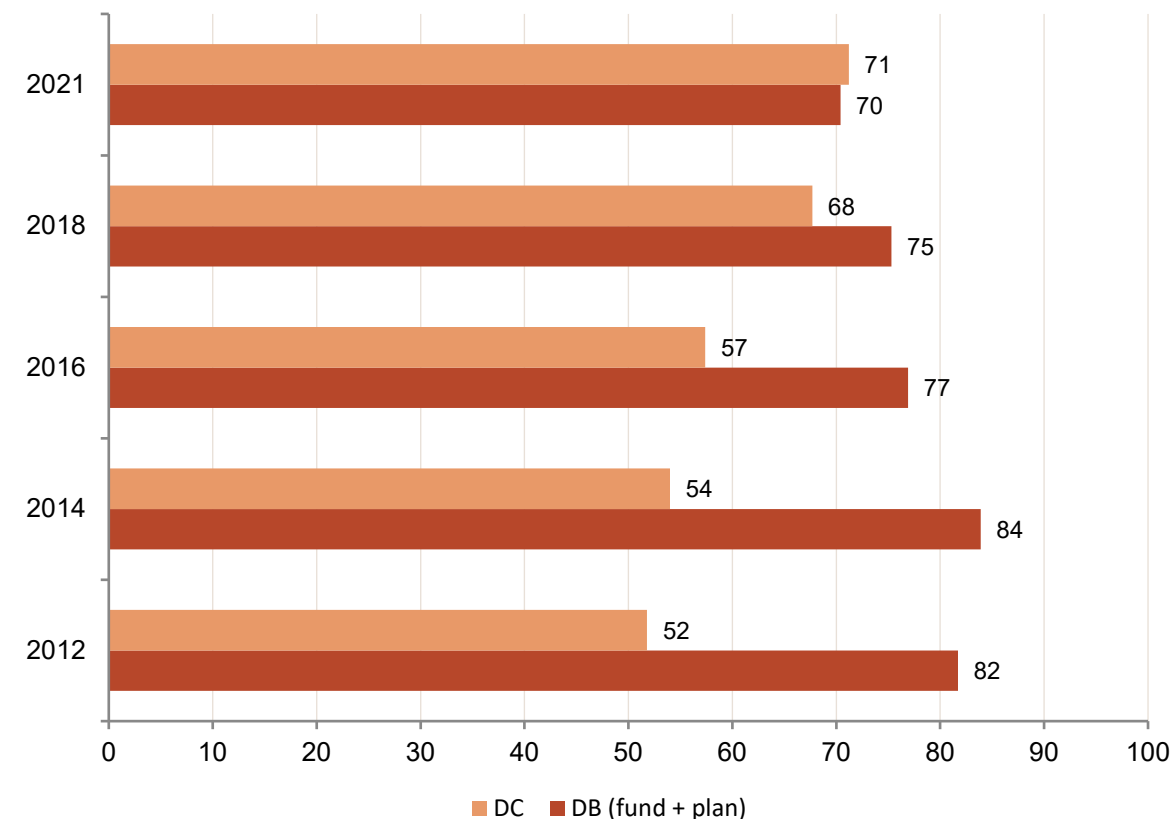
Corporate-type DC

- The sponsor's contributions are fixed.
- Benefits depend on investment results; participants invest the assets themselves.
- The sponsor recognizes no liability (contributions are deductible).

Individual-type DC (iDeCo)

- Individuals contribute and invest assets on their own.

Plan adoption among Keidanren member companies (multiple answers)





Environmental Changes Around Corporate Pensions

Policy Shifts

- Japan as an Asset Management Nation
- Expansion of DC / iDeCo

Economic & Market Environment

- Shift from deflation to inflation
- Rising domestic interest rates

Management Trends

- Human-capital management
- Financial well-being

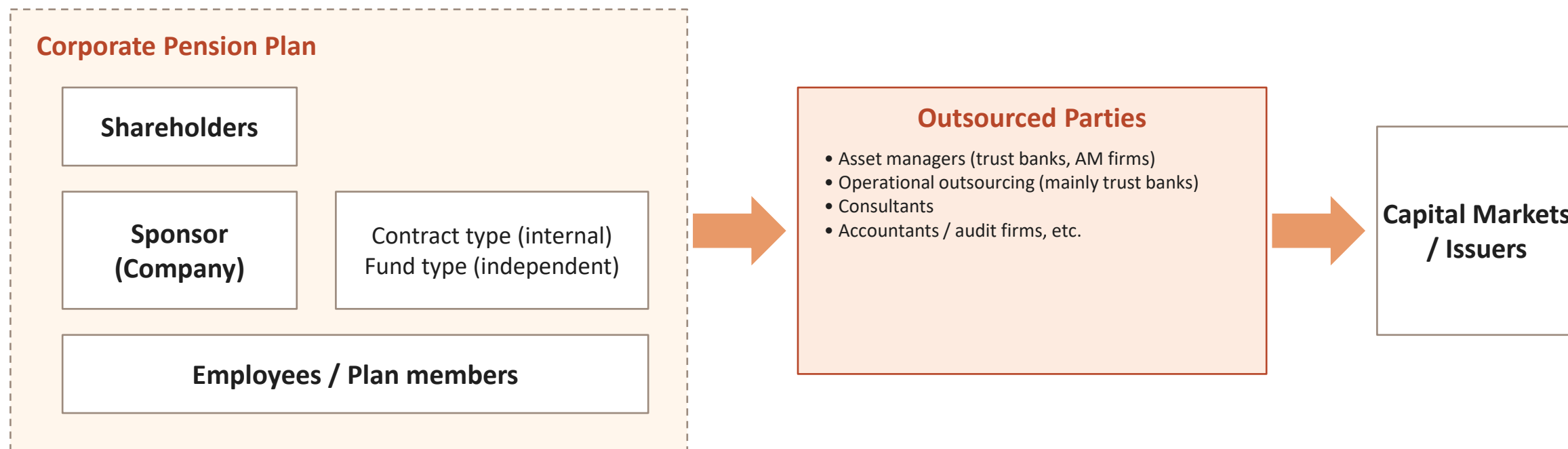
Changing Work Styles

- From membership-based to job-based
- Longer working lives (delayed retirement)



DB Plan Operation Structure

- DB operation is internal for contract-based plans, and conducted by an entity independent of the sponsor for fund-type plans (unlike lump-sum retirement benefits, pension assets are separately managed).
- Asset management is typically outsourced via trust agreements and discretionary investment contracts with trust banks and asset managers.

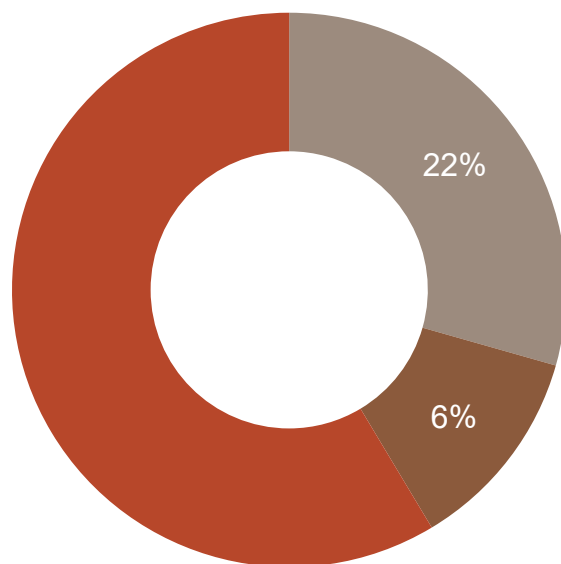




Corporate-type DC: Asset Composition

- Roughly 30% of DC assets are still held in principal-protected products (deposits and insurance).
- However, the use of investment trusts has been rising in recent years, especially among younger members.

Corporate-type DC asset allocation



■ Deposits etc. ■ Insurance ■ Investment trusts / monetary trusts

Composition breakdown as of end of March, 2024

Principal-protected products

- Deposits etc. 21.5%
- Insurance 6.1%

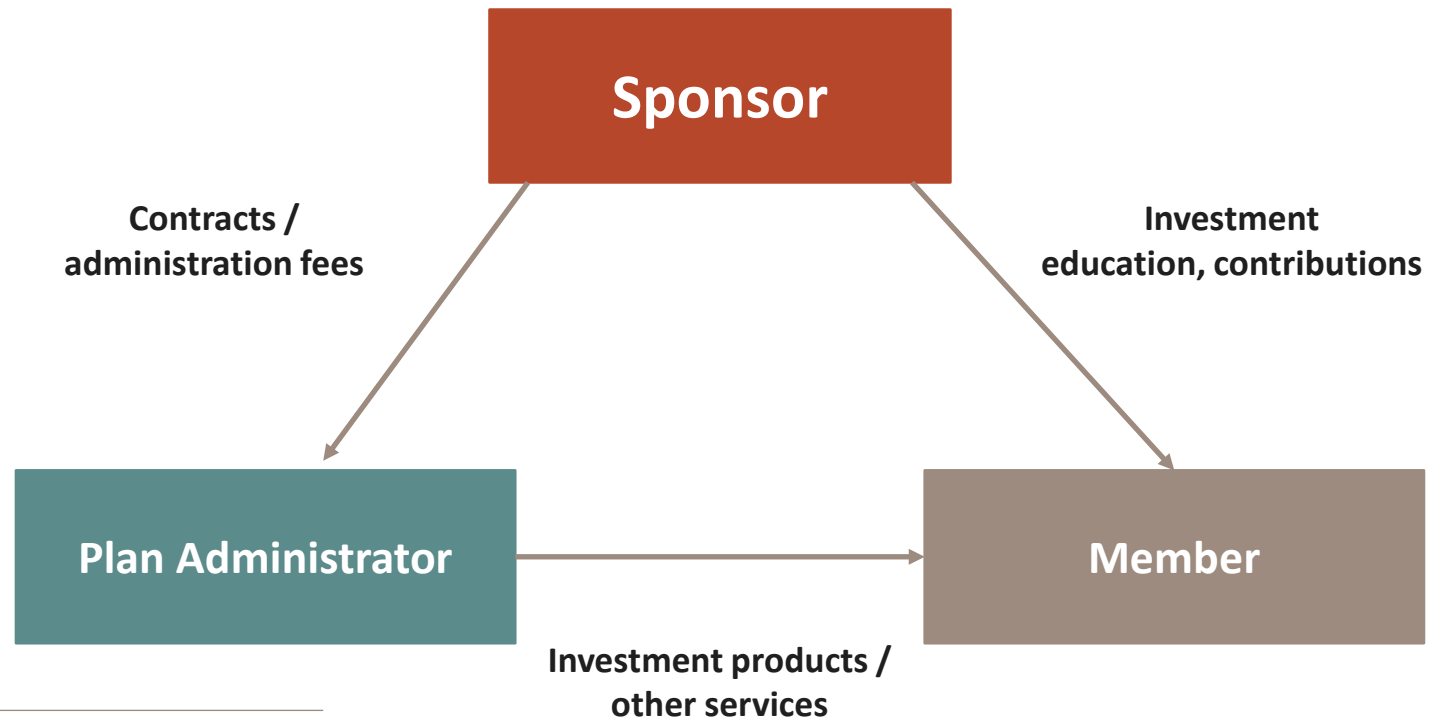
Investment trusts (73.2%)

- Foreign equity
- Balanced funds
- Domestic equity
- Foreign bonds
- Domestic bonds



Corporate-type DC: Structure and Governance

- DC plans are administered by record-keepers — both investment-related and recordkeeping-related operators are involved — and these operators provide the menu of investment options.
- Statutory responsibility for DC administration lies with the sponsor; monitoring of the operators and member investment education are codified as "best-effort" duties.





DB: Liability Definition and Funding Standards

	Funding standards for pension management	Retirement Benefit Accounting
Purpose	Verify funding adequacy under two standards: <ul style="list-style-type: none">• Going-concern basis: smoothing future benefit funding• Termination basis: ensuring required amount upon plan dissolution	Appropriately reflect the sponsor's obligation to provide post-retirement benefits in the company's financial statements
Definition of Liability	<ul style="list-style-type: none">• Going-concern: actuarial reserve (PV of future benefits discounted at the assumed interest rate)• Termination: minimum funding standard amount (plan-dissolution value)	Retirement benefit obligation (PV of future benefits discounted at the discount rate)
Impact of funding-level change	If the funded ratio worsens, additional contributions are required	Changes in actuarial assumptions (e.g., discount rate) and differences between actual and expected returns flow through to P/L and B/S as actuarial gains/losses



Reference: Retirement-Benefit Accounting Standards Compared

	Japanese GAAP	US GAAP (FAS 87)	IFRS (IAS 19)
Discount rate	Yield on high-grade bonds (JGBs, prime corporate bonds)	Pension settlement rate (e.g., PBGC yield, based on market rates)	Prime corporate bonds
Materiality threshold	Yes — may be left unchanged if change is less than 10%	None	None
Attribution of retirement-benefit estimate	Straight-line over service period or benefit-formula basis	Benefit-formula basis	Benefit-formula basis
Expected return on plan assets	Return reasonably expected from plan assets held	Same as left	Discontinued (expected return = discount rate)
Recycling (deferred recognition)	Amortized from OCI within a fixed period and reclassified to net income	Same as left	None
Asset ceiling	None — if plan assets exceed obligation, excess capitalized on B/S	None	Yes — capitalization of asset surplus is limited



Corporate Pension as Both Financial and HR Strategy

- Pension plans are an HR-strategy issue, not just a finance-strategy one.

	Recognition of Retirement-Benefit Obligation	Portability	Coverage Period	Engagement Uplift Effect	Assumed Work Style
Lump-sum retirement	Required	X	—	◎	Membership-based
DB	Required	△	Mid- to long-term (over 20 yrs not allowed)	◎ when sufficiently recognized	Membership-based
DC	Not required	○	— (but withdrawal from age 60)	○	Job-based



Impact of Assumed Rate, Benefit Rate, and Performance

	DB	DC
Assumed rate of return +/-	Lower / higher contributions (Plan-finance: smaller / larger liability)	DC alone: — With DB: contribution ceiling rises / falls (ceiling is ¥55K – per-capita DB contribution)
Benefit rate +/- (interest on benefits if received as pension)	Higher / lower benefits Higher / lower liability	—
Re-evaluation rate +/-	— (Higher / lower benefits for CBP)	—
Discount rate +/-	(Accounting) lower / higher liability Actuarial gains/losses +/- (amortized; unamortized portion in OCI)	—
Expected return on plan assets +/- (JP / US GAAP)	Retirement-benefit expense decreases / increases (more / less likely actuarial gains/losses arise)	—
Actual investment performance	Finance: surplus increases Accounting: positive actuarial gain	Performance > assumed return → higher benefits than DB Performance < assumed return → lower benefits than DB



Reference: Discount Rate vs. Retirement-Benefit Obligation

1. Basic relationship between discount rate and PBO

Discount the projected future benefit cash flows by the discount rate to obtain the present value (PBO).

Higher discount rate → lower PBO (lower PV)
Lower discount rate → higher PBO (higher PV)



2. How rate moves flow through to PBO

The discount rate moves with bond yields (e.g., JGBs); rate changes flow through to PBO in the opposite direction.

Rates ↑

Discount rate ↑
PBO decreases

Future benefits discounted at a higher rate → lower PV

Rates ↓

Discount rate ↓
PBO increases

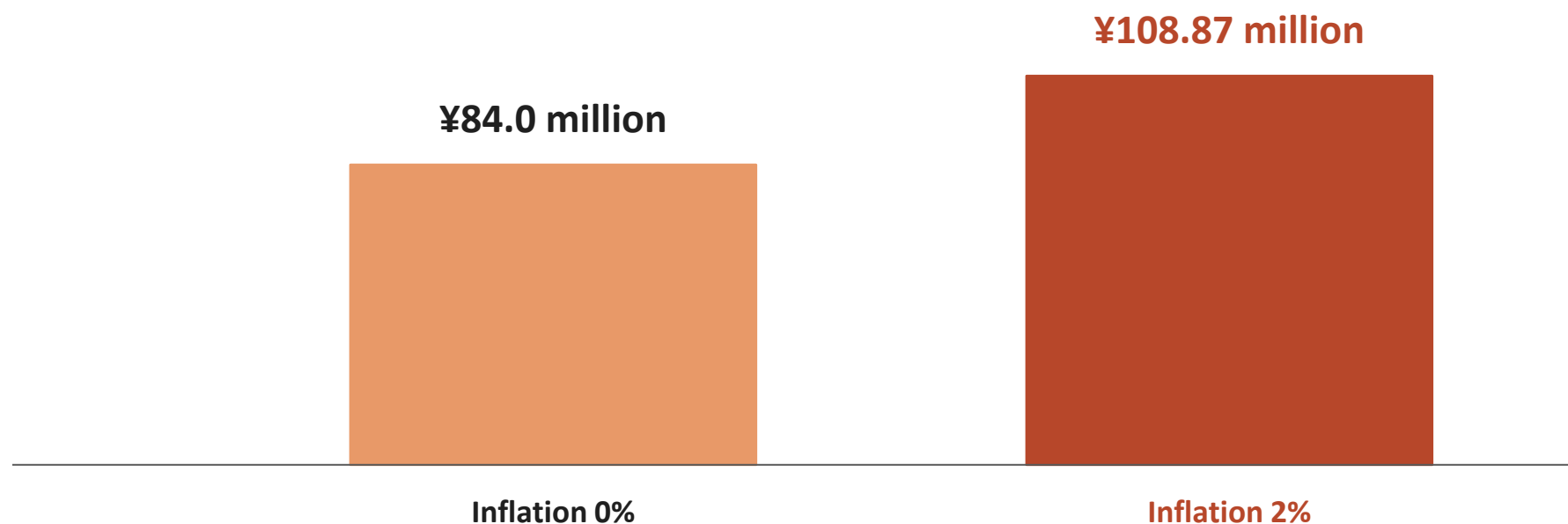
Future benefits discounted at a lower rate → higher PV



Inflation and Retirement Asset Formation

- When inflation rises, future expenses rise, so a larger nest egg is needed for retirement.
- Public pension benefits adjust for inflation and wage growth, but most DB plans have no such inflation-adjustment mechanism.
- For DC, investment education must convey the need for inflation-aware investing.

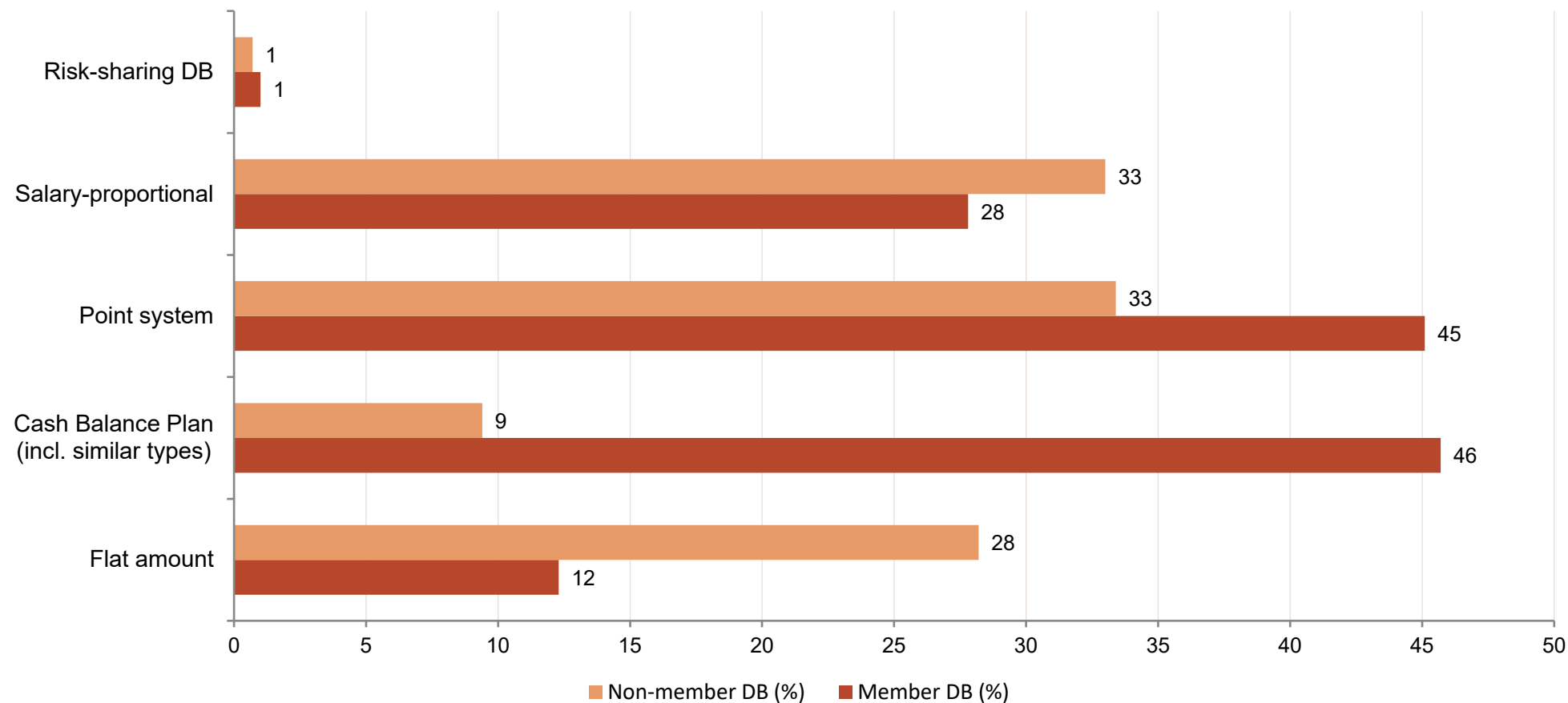
Cumulative living costs from age 65 to age 90





DB Benefit-Calculation Methods

- Direct salary-proportional formulas are now a minority among DB plans; benefits are no longer necessarily linked to salary.

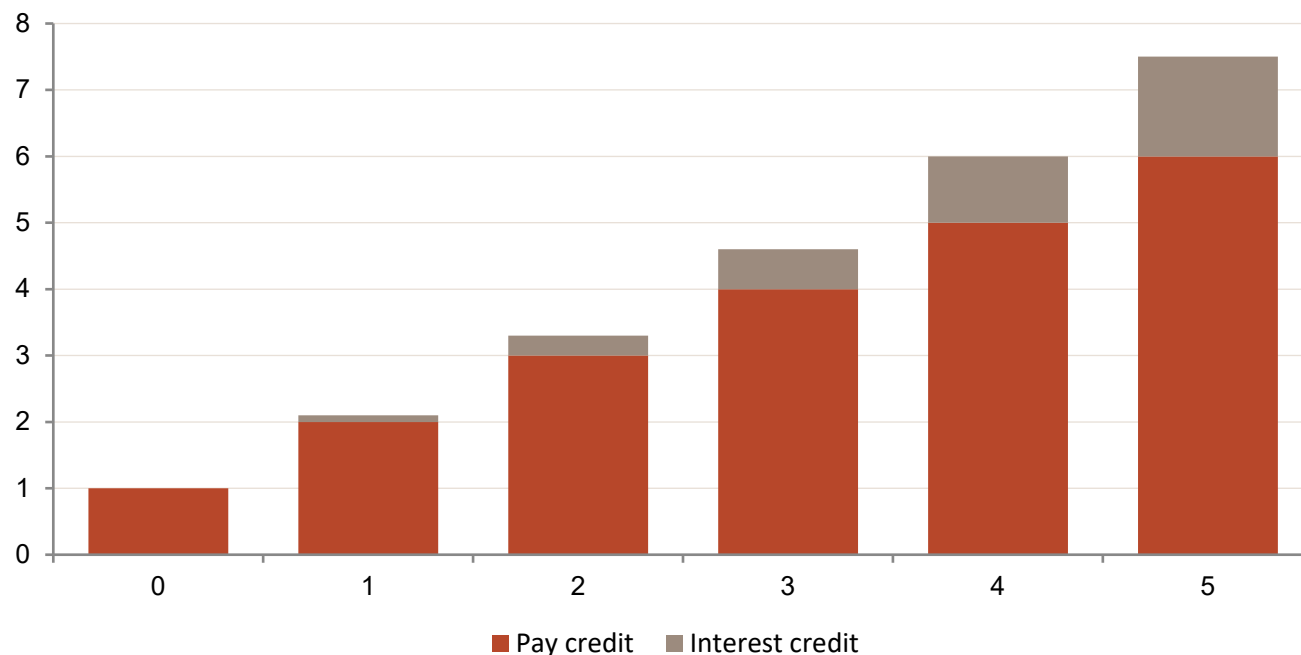




Cash Balance Plans Are Not Directly Inflation-Linked

- A Cash Balance Plan (CBP) is a DB-type plan whose benefits change with a re-evaluation rate.
- The re-evaluation rate is generally based on interest rates, so CBP is not directly tied to inflation.

Notional individual account balance — illustrative



When rates rise, the interest credit grows and so does the annuity amount.

However, note:

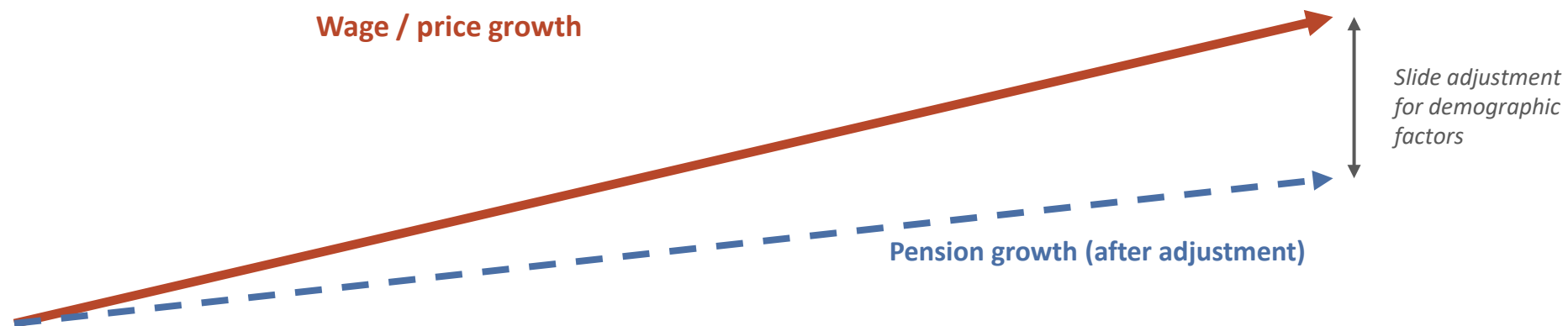
interest rate (re-evaluation rate) \neq inflation rate



Reference: Price Indexation and the Macroeconomic Slide

- Public pension benefits are adjusted to reflect changes in wages and prices.
- However, these adjustments are reduced for factors such as the aging of society.

Macroeconomic Slide — illustrative

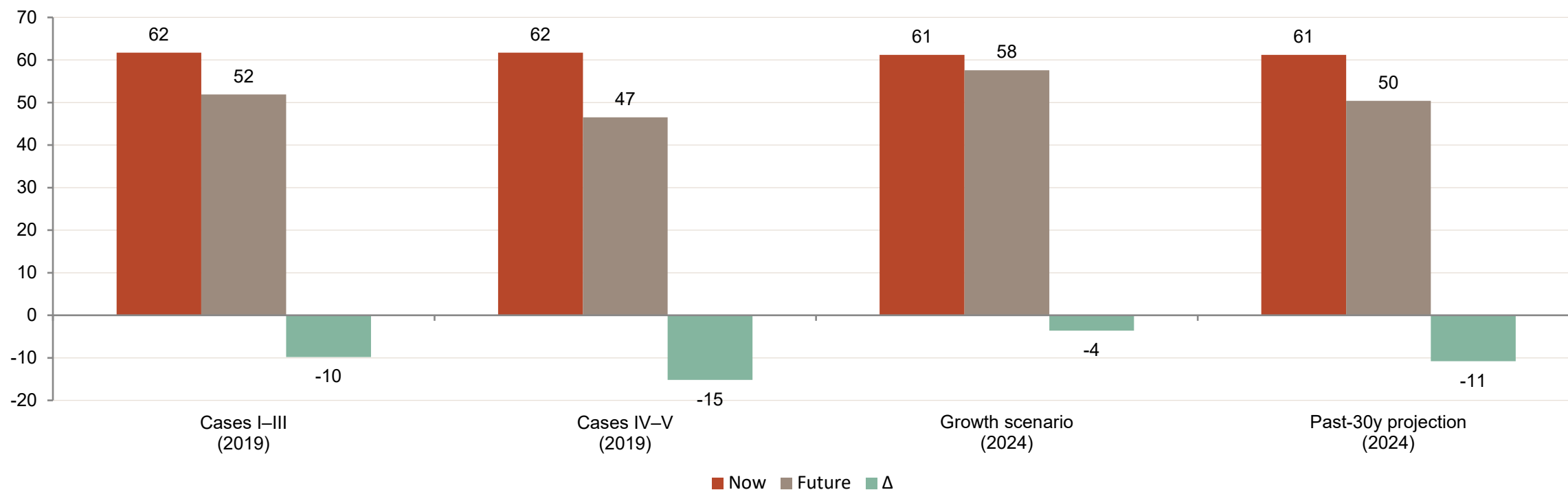




On the 2024 Financial Verification

- Compared with the previous verification, the 2024 public-pension financial verification shows improvement, supported by GPIF's strong investment performance and higher labor-force participation.

Change in income replacement ratio

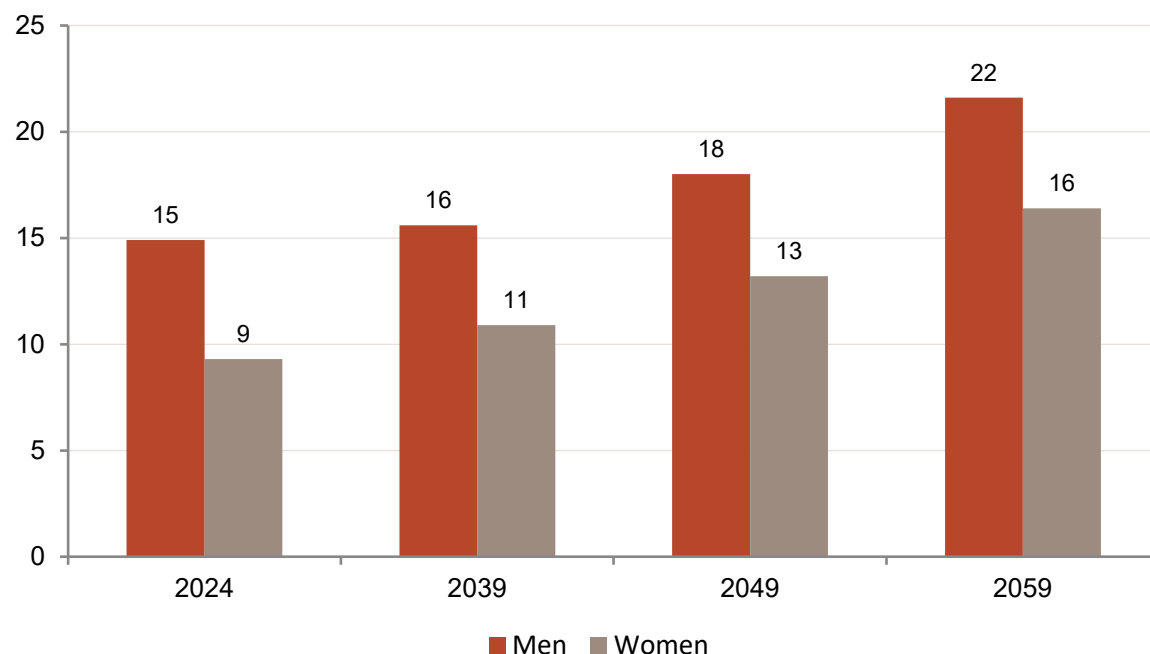




Reference: Expected Public Pension Benefits

- While the income replacement ratio declines with the aging society, the actual yen-amount of benefits does not.
- Public pensions have an income-redistribution function: replacement ratios are higher at lower income levels.

Pension benefit at age 65, per capita (¥10K/month)



Income redistribution in public pensions

- Wage low
→ replacement ratio high
- Wage high
→ replacement ratio low

Although nominal benefits rise, the ratio relative to working-age income gradually falls.



Part 2

Pension Management and Alternative Investments



What Is Alternative Investment?

Difference in investment instruments

Difference in investment methods

Method: Traditional | Instrument: Traditional

- Equities
- Bonds
- Public credit

Method: Non-traditional | Instrument: Traditional

- Hedge funds
- Equity long-short
- Global macro
- Multi-strategy
- Activists

Method: — | Instrument: Non-traditional

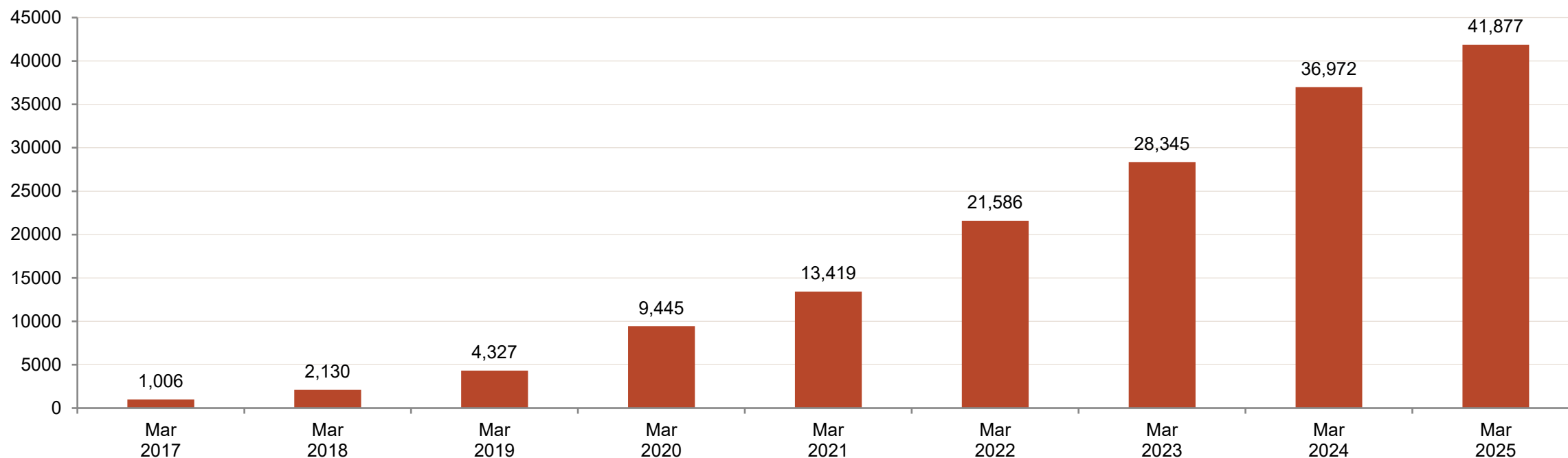
- Private equity
- Real estate / infrastructure
- Private credit
- Forestry / farmland
- Aircraft
- Fine art
- Litigation funds
- Crypto assets, etc.



GPIF's Alternative Investments

- Public pensions invest in alternatives primarily in private assets.
- Given the sheer scale of total assets, the share of alternatives within the total portfolio is still modest.

Alternative AUM by asset type (¥100M)

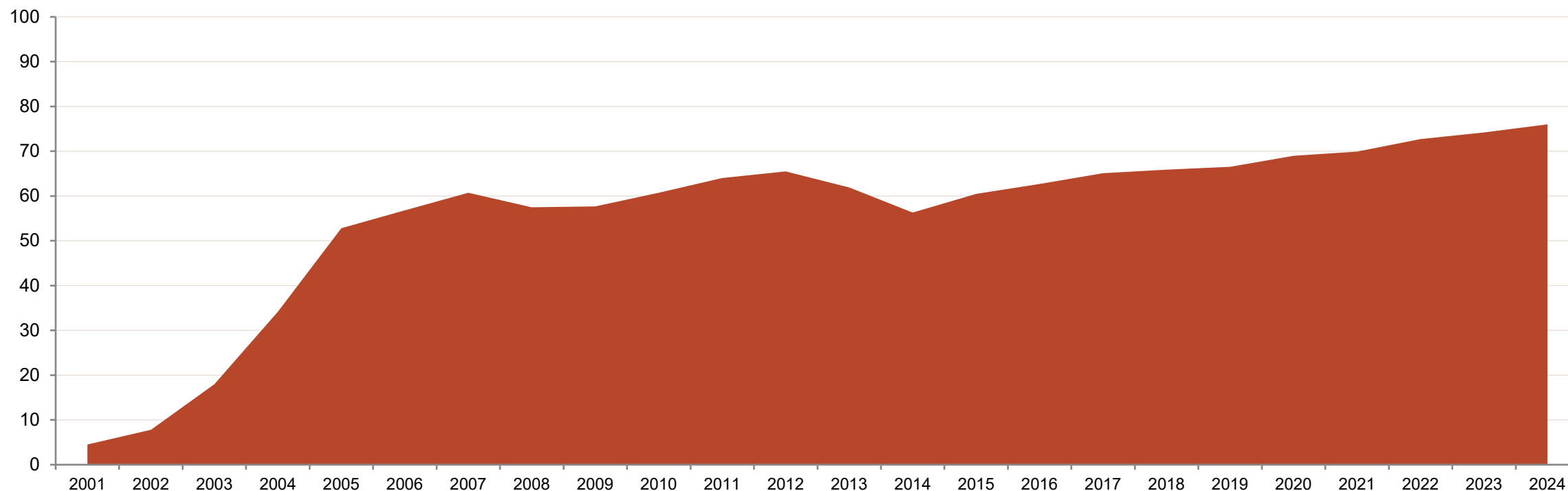




Corporate Pensions and Alternative Investments — Now Essential

- Corporate pensions' alternative-investment activity dipped temporarily around the AIJ scandal (uncovered in 2012), but has been rising since, against the backdrop of low rates and the search for yield.

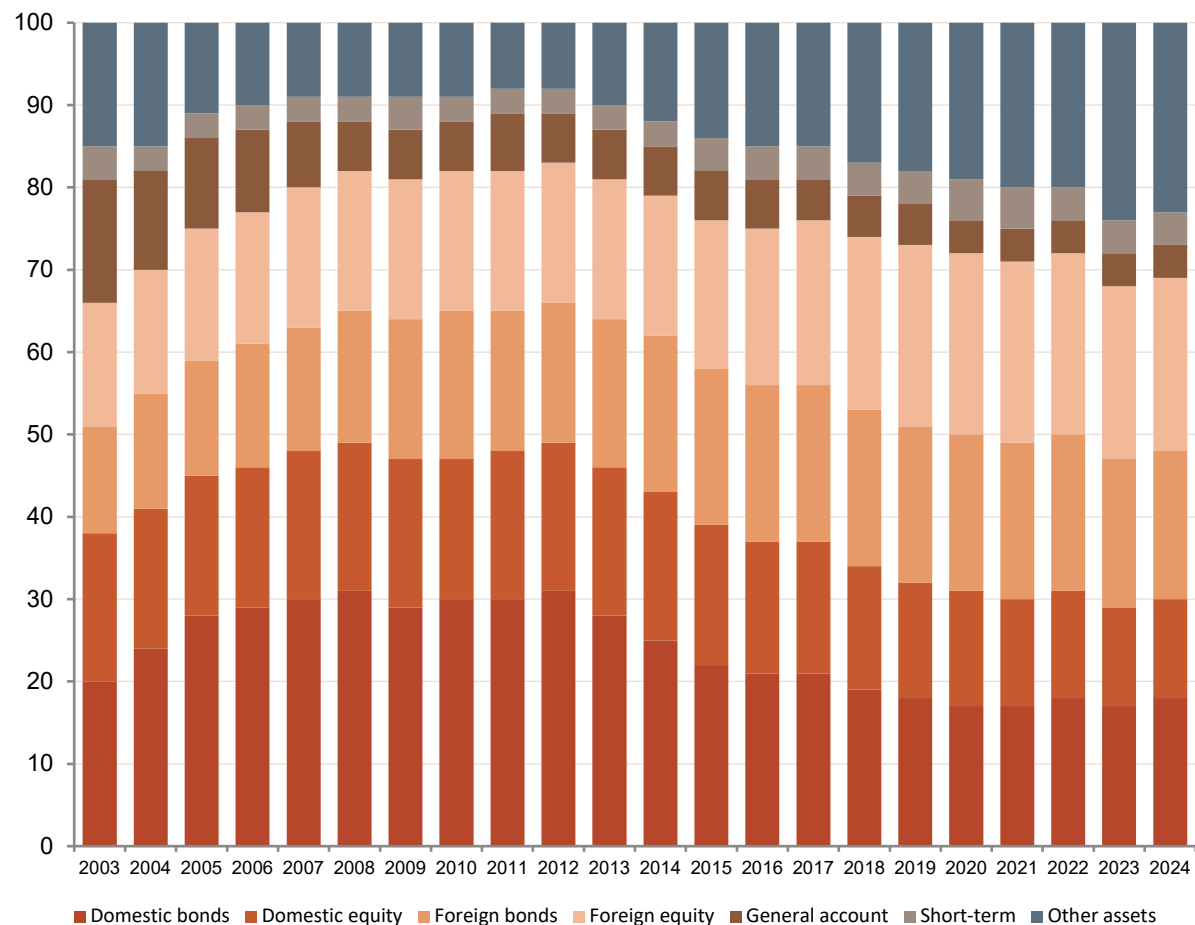
Share of plans using alternatives (%)



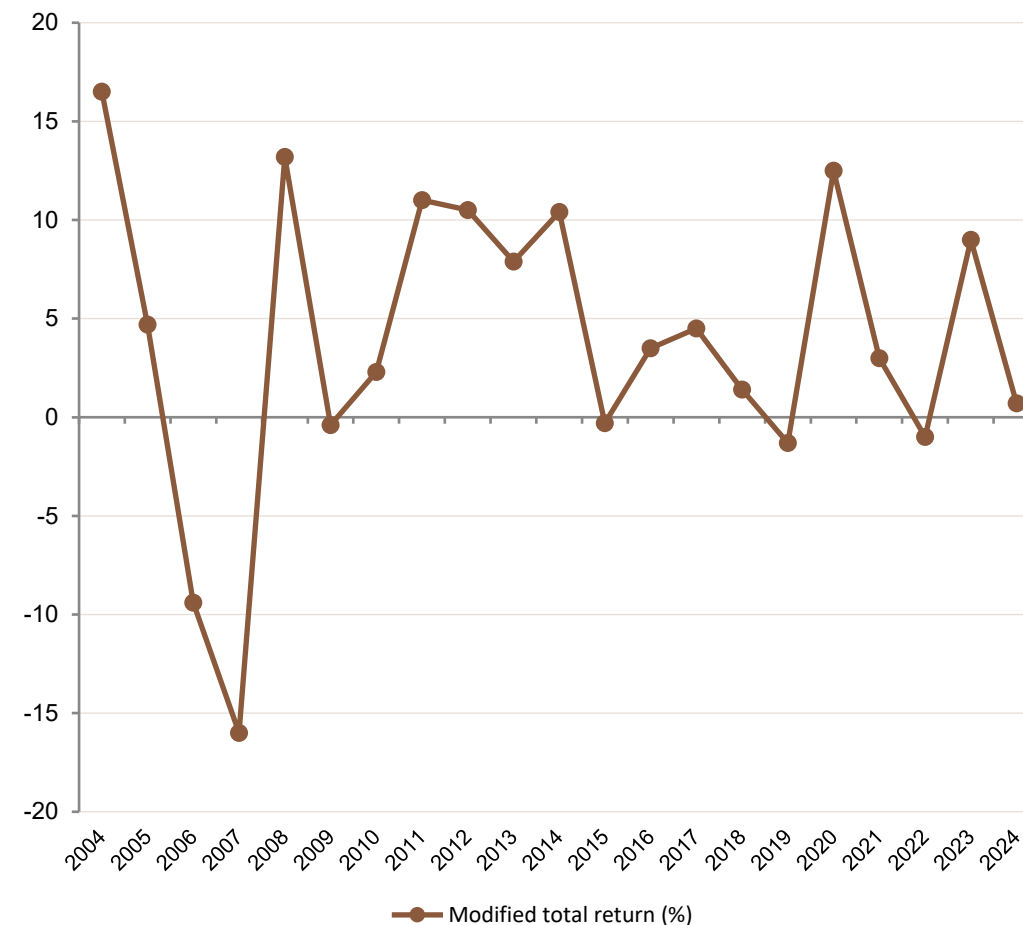


DB Asset Allocation and Investment Performance

Asset-allocation trends



Investment Return(average)





Corporate Pensions (DB) and Liquidity Risk

- With shifting plan rules and an aging membership, the ratio of corporate-pension benefits to contributions has risen to about 1.4x — i.e., maturity is increasing.

Considerations

Liability side

Current cash-flow outlook (contributions / benefits)

- If outflows exceed inflows, payment reserves are needed

Preparedness for plan change

- Cash-out preparation for transition to a different plan

Actuarial-assumption error / sponsor-event risk

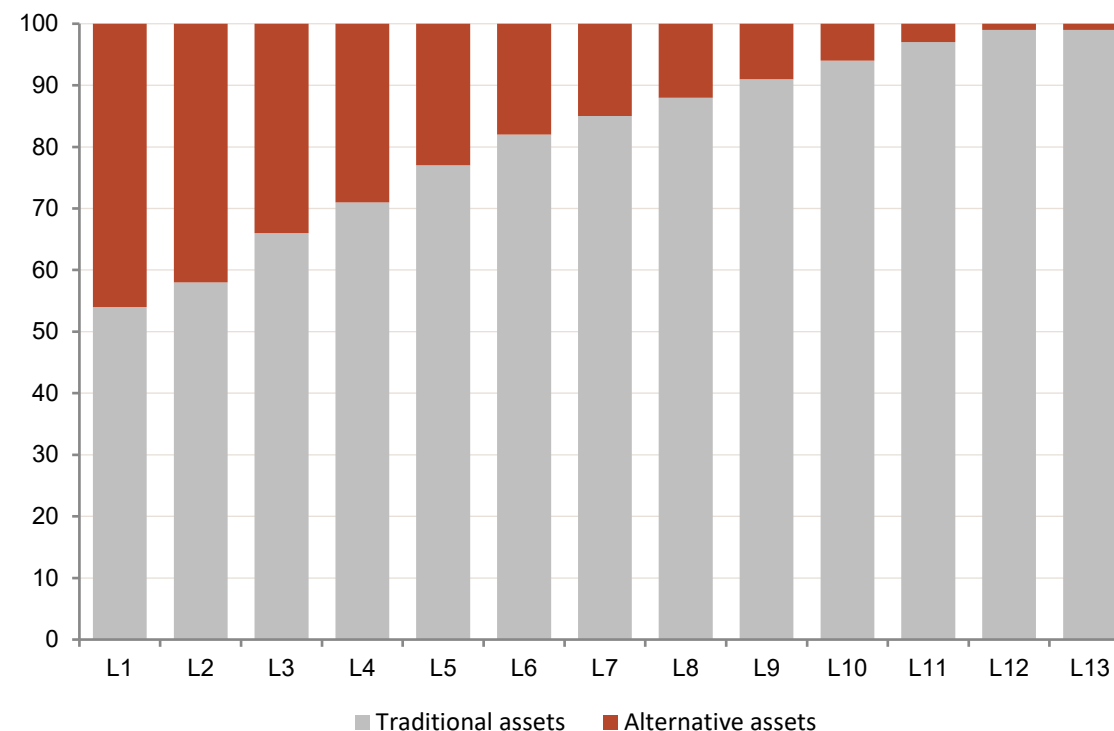
- Sponsor credit events, M&A, surge in retirements, etc.

Asset side

Asset impairment from a market decline

Margin requirements for derivatives / hedging

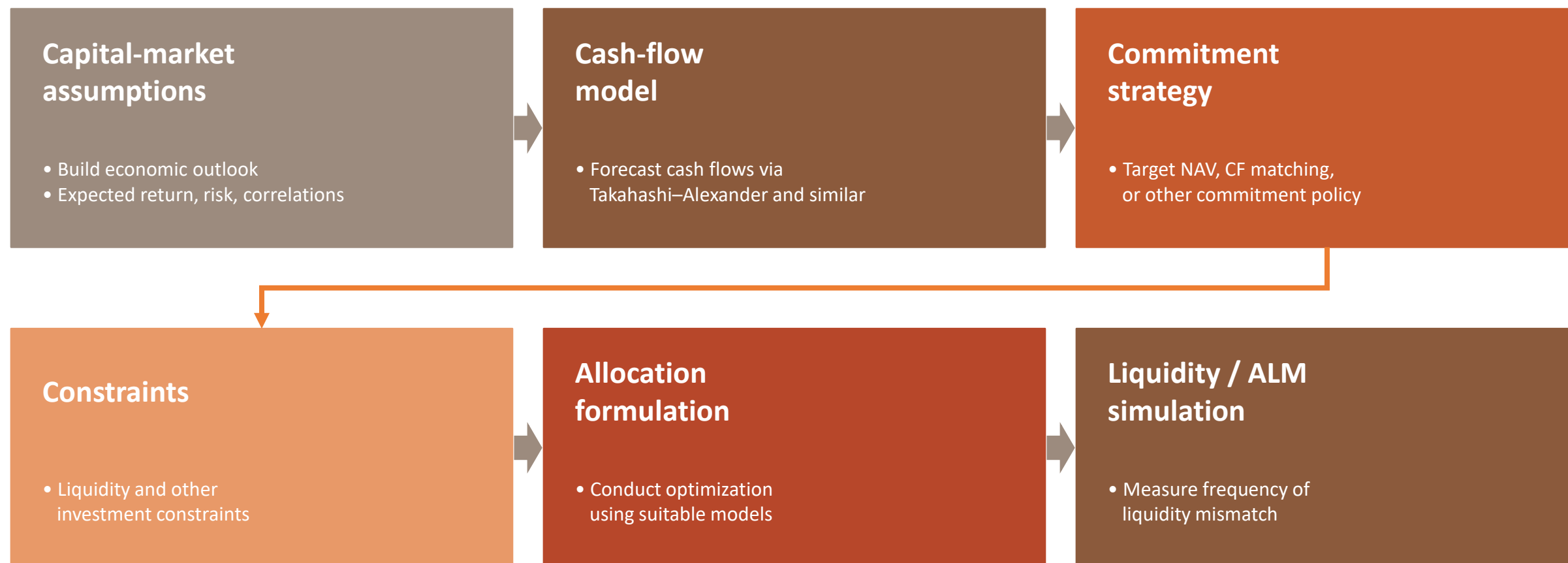
Example: liquidity-aware optimization





Reference: Basic Asset-Allocation Process

Overall process





Examples of Asset-Allocation Models for Alternatives

Factor-model approach — Pedersen, Page & He (2014)

- Decomposes illiquid assets into factors to inform allocation
- Limitation: factor-model error and liquidity constraints not handled

Poisson approach to liquidity uncertainty — Ang et al. (2014)

- Models tradeability via a Poisson process; optimizes under a CARA utility
- In practice, calibrating many parameters is difficult

Adding liquidity cost — Hayes et al. (2015)

- Augments expected returns and covariance with a liquidity-cost term sensitive to fund structure

Allocation incorporating cash flows — Aliaga-Diaz et al. (2022)

- Allocation model that explicitly accounts for trading costs and cash-flow timing
- Computable for 2–3 assets; scales poorly to larger universes



MHLW Guidelines for Pension Alternatives Investing

DB-pension Guidelines — alternatives provisions

Definition: Investments in assets other than traditional equities/bonds, or investments using non-traditional methods such as derivatives.

① Items in basic investment policy

- (A) Purpose of investment — clarify why
- (B) Place within strategic asset allocation — including share
- (C) Specific risks — liquidity etc., differs from traditional assets

② Points to consider when selecting managers

- (A) Organization — overview, decision process, compliance, audit, certifications
- (B) Financial position — historical financials, performance, ratings

③ Items to check across all strategies

- (A) Source of return (B) Risk (C) Valuation methodology / reporting (D) Disclosure framework (E) Cost

④ Items by individual strategy

- (A) Foreign funds — audit status, related-party relationships
- (B) Derivative strategies — leverage risk
- (C) Securitization — structure and embedded risks
- (D) Fund of hedge funds — strategy correlation
- (E) Private equity / real estate — redemption terms and liquidity



Part 3

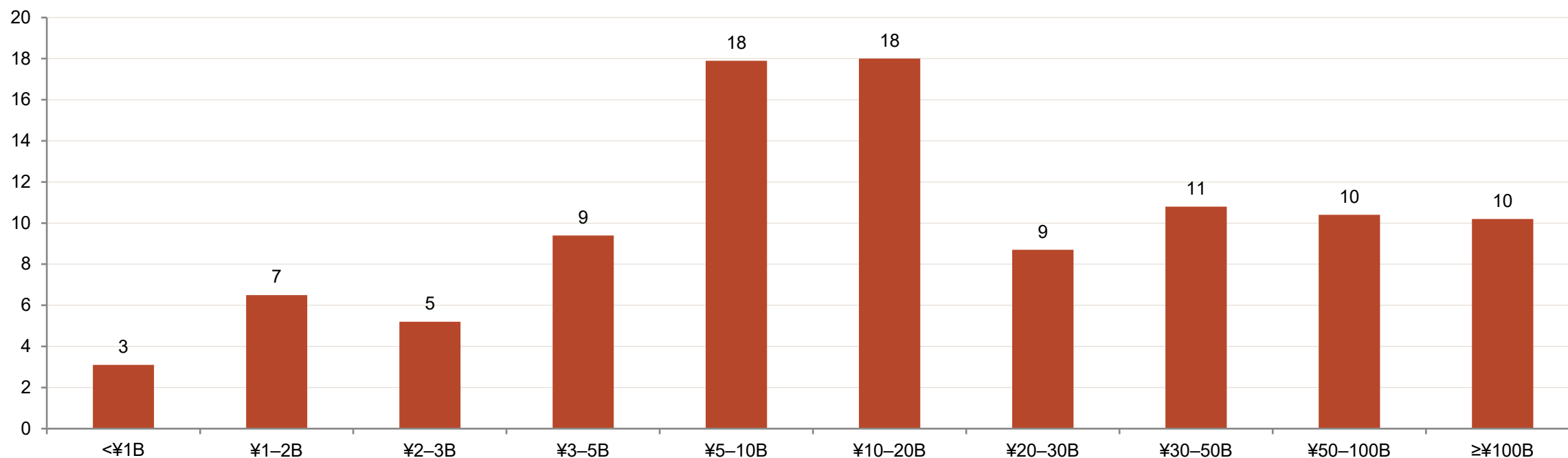
Japan's Pension-Management Challenges and Corporate Management



DB Plan Size and the Investment-Staffing Problem

- Many DB plans are small in scale and cannot maintain sufficient in-house investment resources.
- Most have only zero to one dedicated investment professional.

Distribution of corporate-pension asset size





Corporate Pensions as Financial-Service Providers

- Under the 2024 amendment of the Financial Instruments and Exchange Act, corporate pensions are now treated as financial-service providers and required to conduct business with a "customer-best-interest" duty.

Ensuring customer-best-interest operations

Sales companies

May recommend / sell products with hard-to-understand risks or unreasonable costs (e.g., structured notes) without adequate explanation

Asset managers

Product design and management prioritizing sales promotion over customer interests

Asset owners (incl. corp. pensions)

Insufficient use of investment specialists; weak selection process for asset managers

① Operations in the customer's best interest

Codify, as a duty common across financial firms, corporate pensions and related parties, an obligation to act fairly and faithfully while seeking the customer's best interest.

② Enhanced disclosure to customers

Codify a duty to explain contract terms in line with each customer's knowledge and experience. Permit information provision via written or digital means.

Plan for Realizing an Asset-Management Nation, and Corporate Pensions



- "Corporate-pension reform" is also flagged as a priority in the government's Plan for Realizing an Asset-Management Nation.

Establishment of the Asset-Owner Principles

- Define "common principles on investment, governance, and risk management" expected of asset owners broadly.

Corporate-Pension Reform

- For DB plans, encourage periodic review of asset managers, with replacement based on capability when appropriate, in order to achieve members' best interests
- Promote use of the Pension Fund Association's shared-investment service for small DB plans
- For DC plans, promote the appropriate selection of investment methods through better visibility of designated investment options and product line-ups, and the horizontal spread of best practices
- Make information on DB and DC investment performance more easily comparable across plans



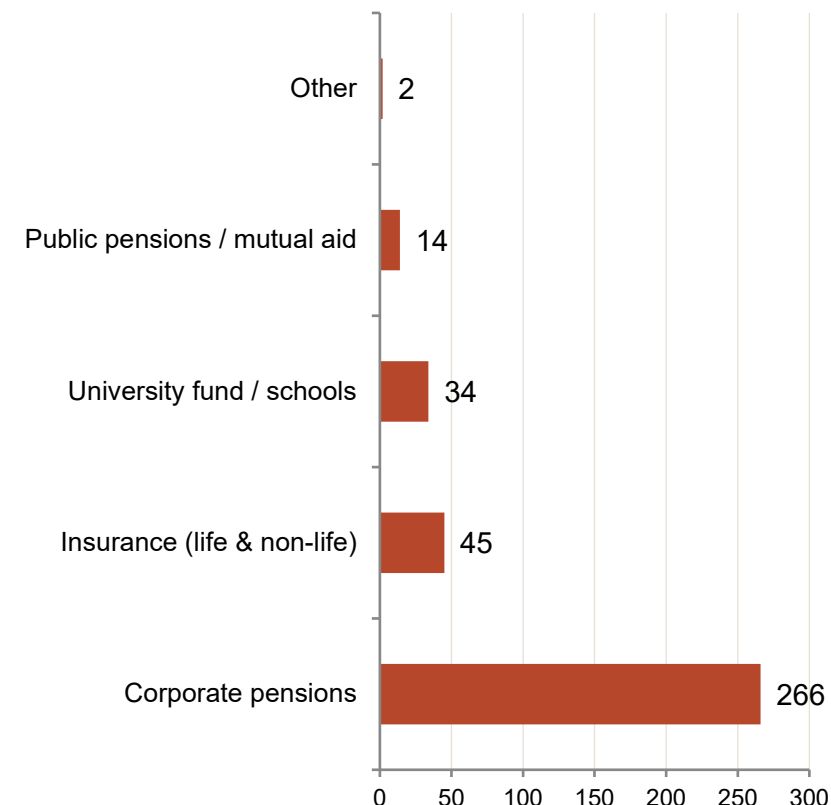
Asset-Owner Principles (AOP): Content and Adoption Status

- The AOP was developed to change asset-owner behavior.

Overview of AOP

Item	Description
Background & purpose	Asset owners are expected to bring benefits to beneficiaries by scrutinizing portfolio companies and outsourced managers, and to foster healthy competition that raises the quality of investment management.
Scope of asset owner	Public pensions, mutual-aid funds, corporate pensions, insurers, the university fund, and other entities managing assets; size and asset nature vary widely.
Principle-based	Adopts a "principle-based approach" — sets common principles asset owners may accept according to their circumstances, in order to deliver appropriate outcomes to beneficiaries.
Legal force	Unlike a statute, no legal force. Asset owners are expected to review the principles in light of their purpose and decide on acceptance.
Comply or explain	Implement the principles, or, if not, explain why.
Statement of acceptance	To improve visibility of adoption, accepting asset owners are expected to notify the relevant ministries / agencies.
Review	The Cabinet Secretariat and related ministries / agencies will follow up appropriately, with revisions as needed in light of social conditions.

Current adoption count (end of March 2026)



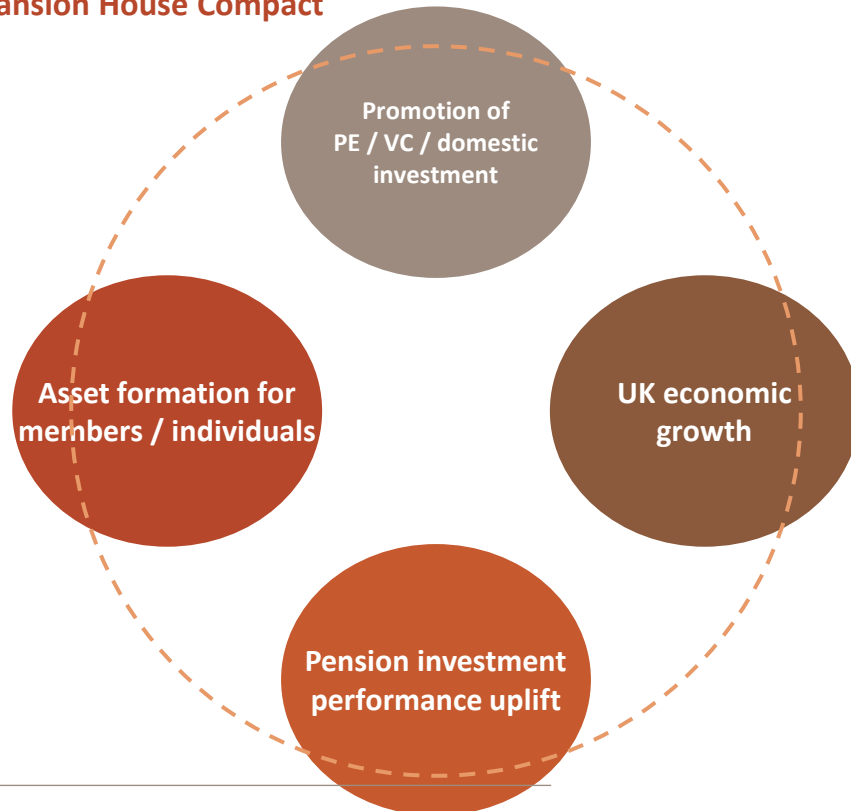
Pension Capital as a Growth Engine

— UK Mansion House Compact



- The UK is reforming its DC system; one element is the promotion of growth-asset investment, including private-company equity, by DC pensions — known as the Mansion House Compact.

Goals of the Mansion House Compact



Pension providers that have signed the Compact (allocate PE in default funds)

- ✓ Aegon
- ✓ AON
- ✓ Aviva
- ✓ Legal & General
- ✓ M&G
- ✓ Mercer
- ✓ Natwest Cushon
- ✓ Nest
- ✓ Phoenix
- ✓ Scottish Widows
- ✓ Smart Pension



What Drives Corporate Pensions' Investment Behavior

- Corporate pensions' investment behavior is shaped by more than just pension rules and accounting standards. A failure-averse corporate culture, HR-evaluation systems, and the availability of specialized talent all interact — yielding a "path-dependent" character, easily influenced by past decisions and organizational habits.





Thank you

<Contact regarding this material>

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