Portfolio Management
For Institutional Investors.
Pension Plans.

Portfolio Management
for Financial Advisers

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Institutional Investors

- Institutions - legal entities that serve as intermediaries between individuals and the capital markets

- Institutitonal portfolios vary widely in their size, needs, objectives and constraints

The four major categories of institutional portfolios are

- ***Pension Funds***
- ***Foundations & Endowments***
- ***Insurance Companies***
- ***Banks***

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1. **Institutional Investors**
2. **Pension Plans**
    1) Defined Benefit Plan
    2) Defined Contribution Plan

Pension Plans

- are any type of **retirement program** in which assets are accumulated to fund future retirement payments to the beneficiaries

- are established and administrated by organizations (**plan sponsors**) for the benefit of its employees (**beneficiaries**)

- fall into two categories:
  - **defined benefit**

    or
  - **defined contribution plans**

Pension Plans - Defined Benefit Plan

Defined Contribution Plan	Defined Benefit Plan
▪ The employer contributes funds to the plan on a periodic basis according to some set of rules or fomula. ▪ Once the contributions are made and invested, the employee receives the proceeds (whatever they are worth) at retirement	▪ The employer is obligated to provide retirement income to the employee based on a set of rules or a formula.
▪ The **risk** as to value of the assets at retirement (and retirement income) **falls on the employee**	▪ The **risk** as to value of the assets at retirement (and retirement income) **falls on the employer**
▪ Once a contribution is made it is generally **owned by the employee**	▪ Funds are **owned by** the plan and are the **responsibility** of the **sponsor**
▪ More portable (if the employee leaves the firm, he/she **can take the assets in a rollover plan**)	▪ Less portable

Pension Plans - Defined Benefit Plan

- In the U.S. their aggregate size is now much smaller than DC plans, because of:
  - higher administrative complexity
  - the future liability they incur for the sponsoring company
- The objective of a pension plan is
  - to fund a future liability (retirement income) by investing the existing plan assets
  - and subsequent contributions.
- The nature of this liability will have a significant impact on the objectives of the plan.
- Two key elements to be considered are:
  - funded status
  - retirement lives.

Pension Plans - Defined Benefit Plan

Funded status have a direct bearing on the sponsor's future obligations

Funded Status	**present value of the plan assets (their market value)** **less** **present value of the future liabilities (retirement payments)**

The DB plan might be:

1) **fully funded -** the value of the assets equals or exceeds the present value of the liability

2) **overfunded** - the sponsor's obligations to make future contributions will be reduced and the sponsoring company's future profits will increase

3) **underfunded** - company contribution will be increased and future profits reduced

Pension Plans - Defined Benefit Plan

Measuring

Measures used to determine the present value of future plan liabilities:

- **Accumulated Benefit Obligations (ABO)**- assumes the plan will terminate immediately and will provide future benefits based only on years of services and salary qualifications earned by employees to that date. Future years of employment are ignored

- **Project Benefit Obligation (PBO)-** the PBO calculation is based on projections of the future pay increase and years of service to provide a more realistic estimation of the present value of future liabilities. Funded status is usually based on PBO

- **Total Future Liability-** This measure takes into account any other expectations that might affect payouts such as changes in the size of the workforce, inflation, wage increases and changes in benefits. It is most difficult to predict

Pension Plans - Defined Benefit Plan

Future liabilities

Future liabilities are often divided between:

- **Retired-lives** for employees who have already retired and whose benefits are, therefore, easier to estimate

- **Active-lives** for employees still working and whose future benefits are more difficult to etimate

Pension Plans - Defined Benefit Plan

Risk Objectives

The **risk objective** of DB Plan is a function of five factors:

- **Plan's funded status**
  - if the plan is overfunded, there is a greater capacity to absorb disappointing returns and thus, the ability to tolerate risk is increased
  - underfunded status reduces the ability to accept risk
- **Financial status and profitability of the sponsor**
  - the greater the financial strength and the profits of the sponsor, the greater the ability to bear risk
- **Correlation between plan asset returns and sponsor business results**
  - a high correlation reduces the ability to bear risk
- **Plan features**
  - some features could create unexpected liquidity needs and limit the ability to assume risk (e.g. options that allows employees to retire early or take out benefits as a lump sum)
- **Characteristics of the workforce**

Pension Plans - Defined Benefit Plan

Return Objectives

Category	Variable	Explanation
Plan status	▪ Plan funded status (surplus or deficit)	Higher pension surplus or higher funded status implies greater risk tolerance
Sponsor financial status and profitability	▪ Debt to total assets ▪ Current and expected profitability	Lower debt ratios and higher current and expected profitability imply greater risk tolerance
Sponsor and pension fund common risk exposures	▪ Correlation of sponsor operating results with pension asset returns	The lower the correlation, the greater risk tolerance, all else equal
Plan features	▪ Provision for early retirement ▪ Provision for lump-sum distributions	Such options tend to reduce the duration of plan liabilities, implying lower risk tolerance, all else equal.
Workforce characteristics	▪ Age of workforce ▪ Active lives relative to retired lives	The younger the workforce and the greater the proportion of active lives, the greater the duration of plan liabilities and the greater the risk tolerance.

Pension Plans - Defined Benefit Plan

Return Objectives

- The basic objective of the DB plan **is to earn return sufficient to meet the liability of pension obligations adjusted for inflation**
- A specific return objective should start with the discount rate used to determine the present value of the future liabilties
- The plan sponsor may increase this return requirements in an effort to minimize future contributions
- The ability to increase desired return objective rises with a longer time horizon or lower liquidity needs
- A high percentage of retired lives to active lives significantly reduces the reasonable return objective

Pension Plans - Defined Benefit Plan

It is important, that plan assets must be utilized solely for the benefit of the participants:

- An objective to seek **high returns**, if successful, would **maximize plan surplus** and eventually **reduce sponsor contributions**, but it would have no direct benefit to current and future plan beneficiaries
- A very low return objective would be detrimental to all parties:
  - it would contribute to an underfunded plan and a negative plan surplus. This is riskier for the plan beneficiaries
  - and would lead to rising contributions and falling profits for the sponsor

! NOTE !

Appropriate return and risk objectives must balance these two extremes to meet obligations to plan beneficiaries without jeopardizing the sponsoring company

Pension Plans - Defined Benefit Plan

Liquidity

The **cash outflow** of the plan is **determined by benefit payments less contributions:**

1) If percentage of retired lives is high, this will create a significant and predictable need for liquidity

2) If future contributions will be small, liquidity needs will increase

3) Options within the plan that allow to draw out funds early will create an unpredictable need for liquidity

Pension Plans - Defined Benefit Plan

TIME HORIZON	for an ongoing and growing pension plan a time horizon is very long; However, it varies and is the characteristics of the workforce
TAXES	in the U.S. a defined benefit plan is a tax-exempt entity
LEGAL AND REGULATORY	The Employment Retirement Income Security Act governs corporate and multi-employer plans in the U.S. ERISA requires managers to act with professional expertise and operate from portfolio perspective of risk and return
UNIQUE NEEDS AND CIRCUMSTANCES	varies, maybe none

Pension Plans - Defined Benefit Plan

IPS

IPS for DB plan includes:

- **background section** describing the sponsoring company, qualified beneficiaries, plan’s purpose, roles of the participants, operating and procedural guidelines for investment committee (which is responsible for the overall investment process)

- statement of **objectives and constraints**

- strategic **asset allocation**

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Pension Plans - Defined Contribution Plan

There are **two** distinct **types of DC plans**:

1. **Company- directed:**
   - plan sponsor oversees the investments
   - the IPS of such plan contains the same elements and is prepared in the same way as the IPS for a DB plan
2. **Participant- directed**:
   - each participant establishes objectives and constraints of the plan, as well as asset allocation for himself
   - the plan IPS states only the overall objectives and constraints and outlines the manner in which the sponsor will identify the investment options offered to the participants
   - offering sufficient choices of investment options is required by law (3 distinct investement choices)

CASE STUDY