Broadstone

Introduction to Investment Principles

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Agenda

- Why invest?
- Asset classes
  - Growth assets
  - Protection assets
  - Other assets
- Risks for DB pension schemes
- Questions

1 Why Invest

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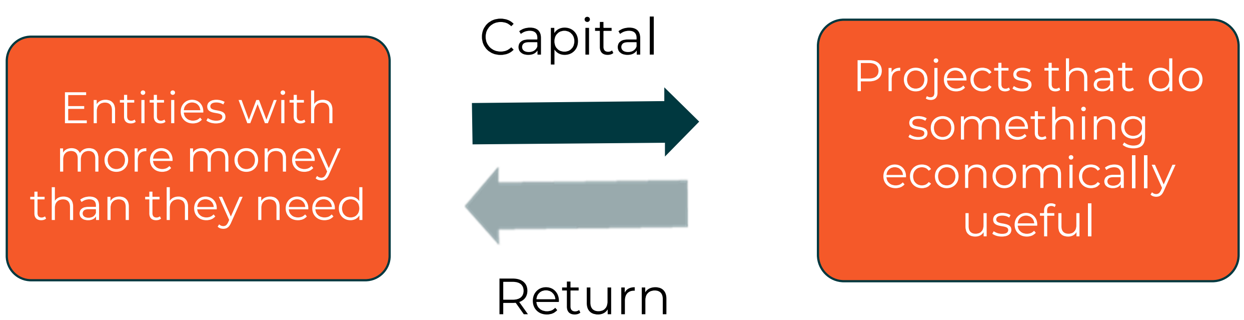
Purpose of Investment

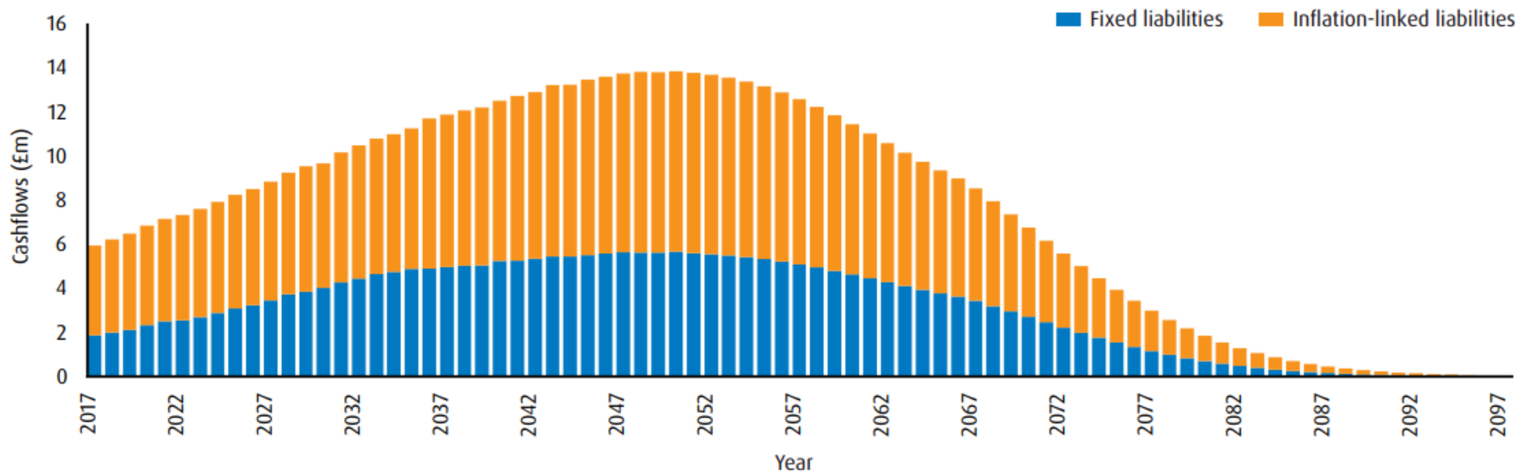
Investment generally involves a transfer of capital in return for an economic gain



- ‘Projects’ can take many forms, e.g. government spending, companies, infrastructure, lending to third parties
- Return takes different forms – income and capital growth
- Level of expected return and risk depends upon nature of project

How pension scheme payments work

A series of payments have been promised to members. As schemes mature these payments are expected to fall over time.



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Asset classes

What types of assets can we invest in?

- Equities
- Bonds
- Alternatives
- Property
- Cash
- Derivatives

Diversified Growth Funds

Liability Driven Investment

3 Growth

Equities – characteristics

- What are they?
  - Share of ownership of publicly quoted companies
- How do I get my return?
  - Payment of regular dividends from company profits
  - Increase in value of share price
- Risk/return profile?
  - Historically the highest returning ‘conventional’ asset class
  - High levels of volatility
- Use for pension schemes?
  - Generate return
  - Correlation with inflation

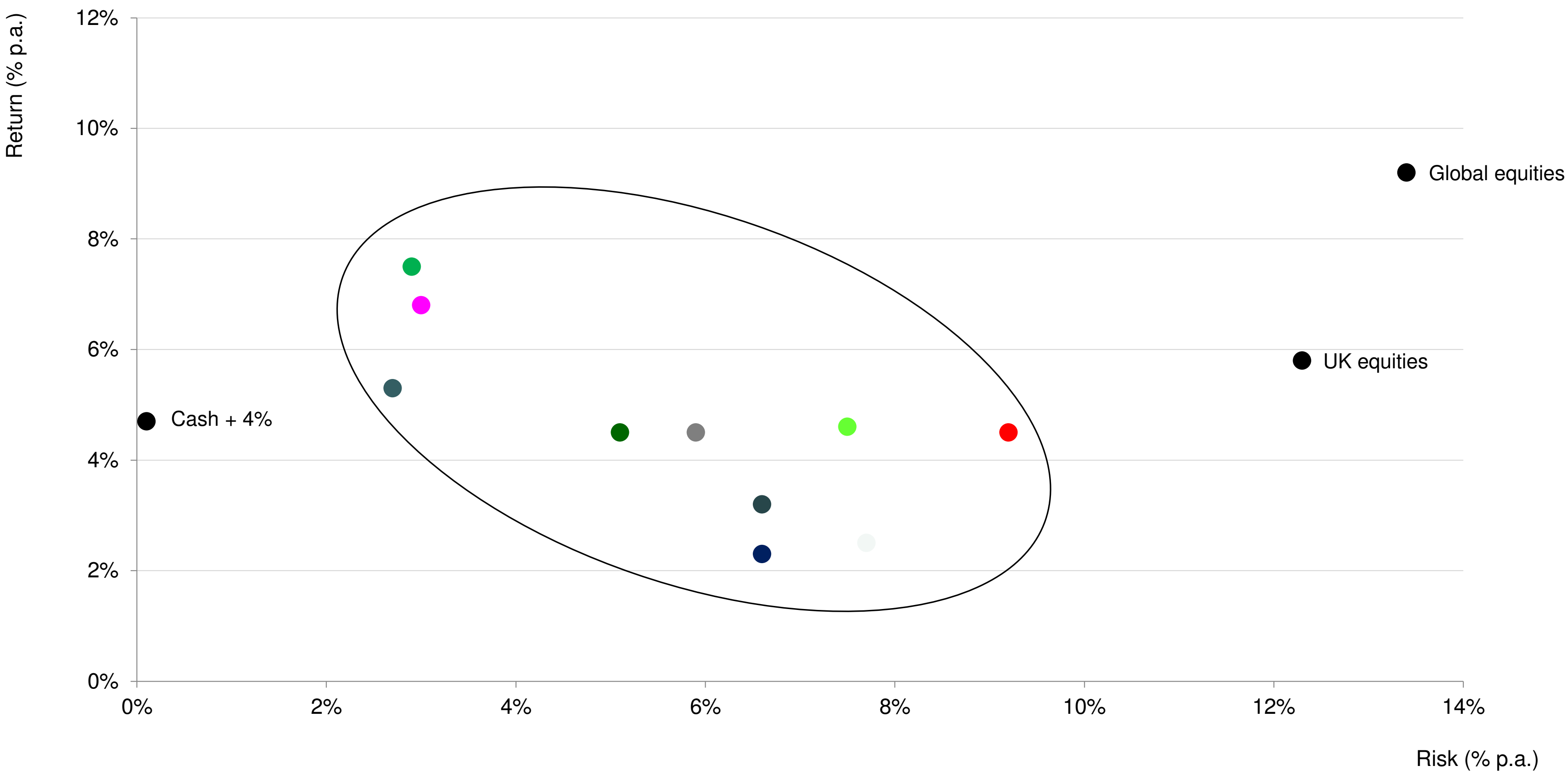
Property – characteristics

- What is it?
  - Investment in office, retail and industrial properties
- How do I get my return?
  - Payment of rental income from commercial tenants
  - Increase in value of property
- Risk/return profile?
  - Returns close to equities over the long term
  - Reduced volatility compared to equities
- Use for pension schemes?
  - Generate return
  - Diversified source of return

Diversified Growth Funds

- What are they?
  - Funds that combine a variety of asset classes in one packaged product
  - Dynamic allocation (to different extents)
- How do I get my return?
  - Target an ‘equity-like’ level of return over a market cycle
- Risk/return profile?
  - Return usually expressed as ‘*Cash + x%*’ or ‘*Inflation + y%*’
  - Lower volatility than equity markets
- Use for pension schemes?
  - Generate return
  - Reduce volatility of returns (i.e. diversified sources of risk)

Diversified Growth Funds – The last 10 years



Alternatives - characteristics

- What are they?
  - Assets that fall outside the 'traditional' classes
  - Private equity, infrastructure, high yield bonds, hedge funds, commodities, etc.
- How do I get my return?
  - Income, capital appreciation, manager skill or a combination of these
- Risk/return profile?
  - Variety of risk and return profiles
  - Diversified sources of return
- Use for pension schemes?
  - Generate return and possibly cashflows

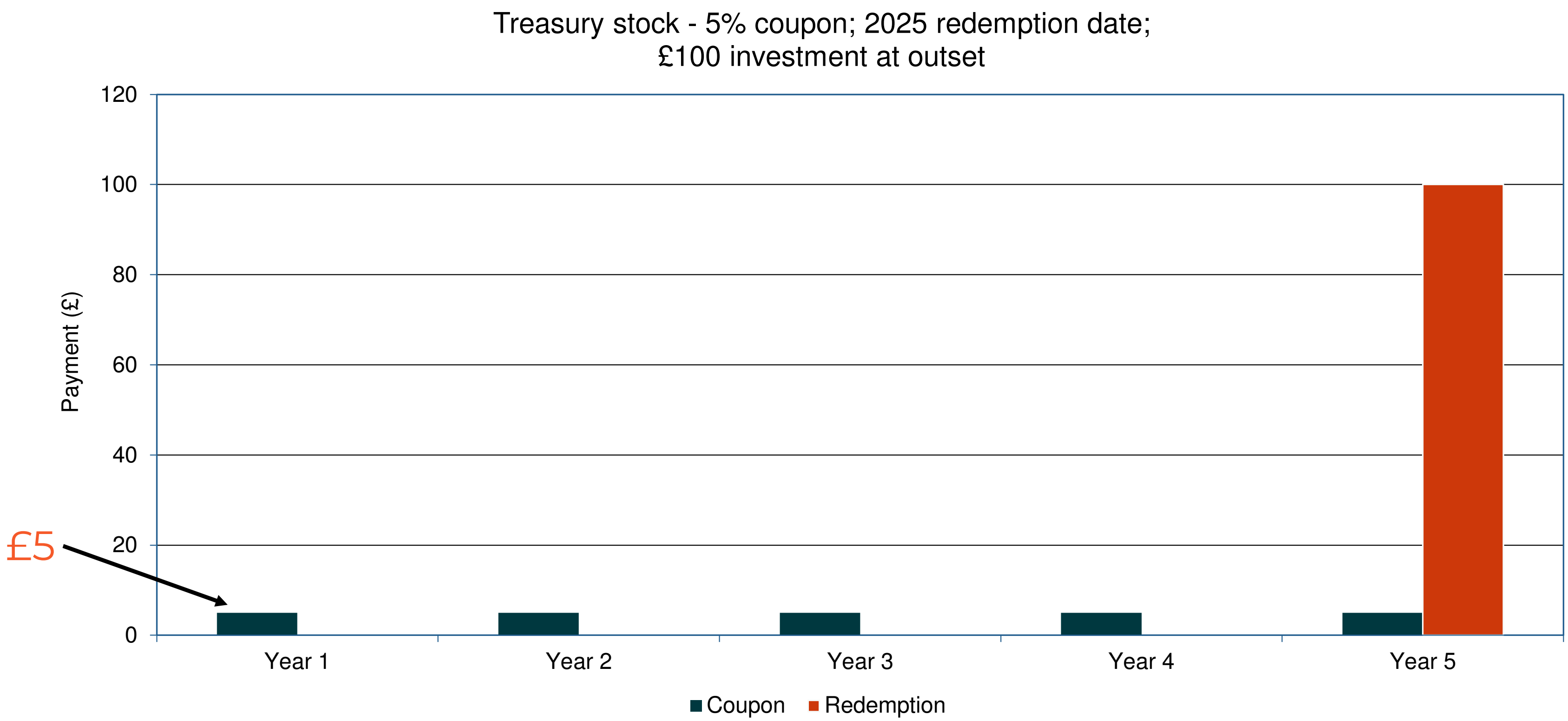
4 Protection

Bonds - characteristics

- What are they?
  - Debt issued by governments, corporations and organisations
- How do I get my return?
  - Payment of regular interest ‘coupons’
  - Payment of capital value at the end of the term
- Risk/return profile?
  - Typically lower return than ‘growth’ assets, but highly predictable
  - Asymmetric risk profile
  - Risk is dependent on issuer
- Use for pension schemes?
  - Match future cashflows
  - Protect against liability changes

Yield and price

- A promised series of future payments
- Yield/return at outset is 5% per annum



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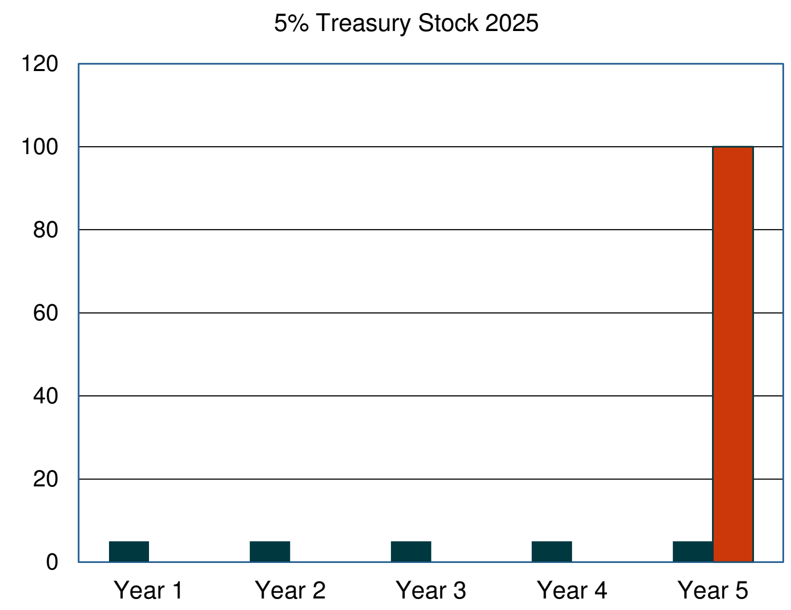
Yield and price

At outset gilt price = £100
Annual yield on investment = 5.0% pa

Sudden fall in stock market leads to 'flight to safety' and increases demand for gilts

Next day price = £110

Annual yield on investment = 2.8% pa



Important to remember…

A rise in a bond's price is reflected in

a fall in its yield

A fall in a bond's price is reflected in

a rise in its yield

Why are bonds useful for pension schemes?

A portfolio of high-quality bonds can (in theory) produce cashflows that match projected benefits with a high degree of certainty…

Liability Driven Investment ('LDI') - characteristics

- What is it?
  - Portfolio of bonds, derivatives and cash

- What does it do?
  - Offsets changes in a Scheme's liabilities
  - Allows increased exposure to hedging assets (bonds)
  - Frees up other assets to pursue growth

- Risk/return profile?
  - Returns mirror expected change in value of liabilities
  - Typically more volatile than bonds due to leverage

- Use for pension schemes?
  - Can be used to target a specific level of protection against interest rate and inflation changes

Annuities - characteristics

- What are they?
  - Insurance product

- What do they do?
  - Secure pension benefits with insurer in return for premium

- Risk/return profile?
  - Secure – insurers regulated by FCA and PRA
  - Typically high cost due to insurer reserves and profit margin

- Use for pension schemes?
  - Transfer duties to insurer
  - Transfer risks associated with pension scheme (investment and mortality risks)

5 Other assets

Derivatives - characteristics

- What are they?
  - Contracts agreed between two or more parties based on an underlying asset(s)
- How do I get my return?
  - Change in value based on underlying factor (e.g. equity prices, interest rates, commodity prices)
- Risk/return profile?
  - Dependent on derivative type and on underlying asset
  - Typically more volatile due to leverage
- Use for pension schemes?
  - Protect (hedge) against risks
  - Manage portfolios efficiently

Cash - characteristics

- What is it?
  - Bank deposits
  - Short-term debt issued by governments, corporations and organisations
- How do I get my return?
  - Provide short-term loan for agreed interest rate
- Risk/return profile?
  - Low return, typically based on London Inter Bank Offer Rate (LIBOR) or Sterling Overnight Index Average (SONIA)
  - Low volatility of returns
- Use for pension schemes?
  - Protect capital value of assets
  - To pay benefits
  - Collateral source

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Risks For Defined Benefit Pension Schemes

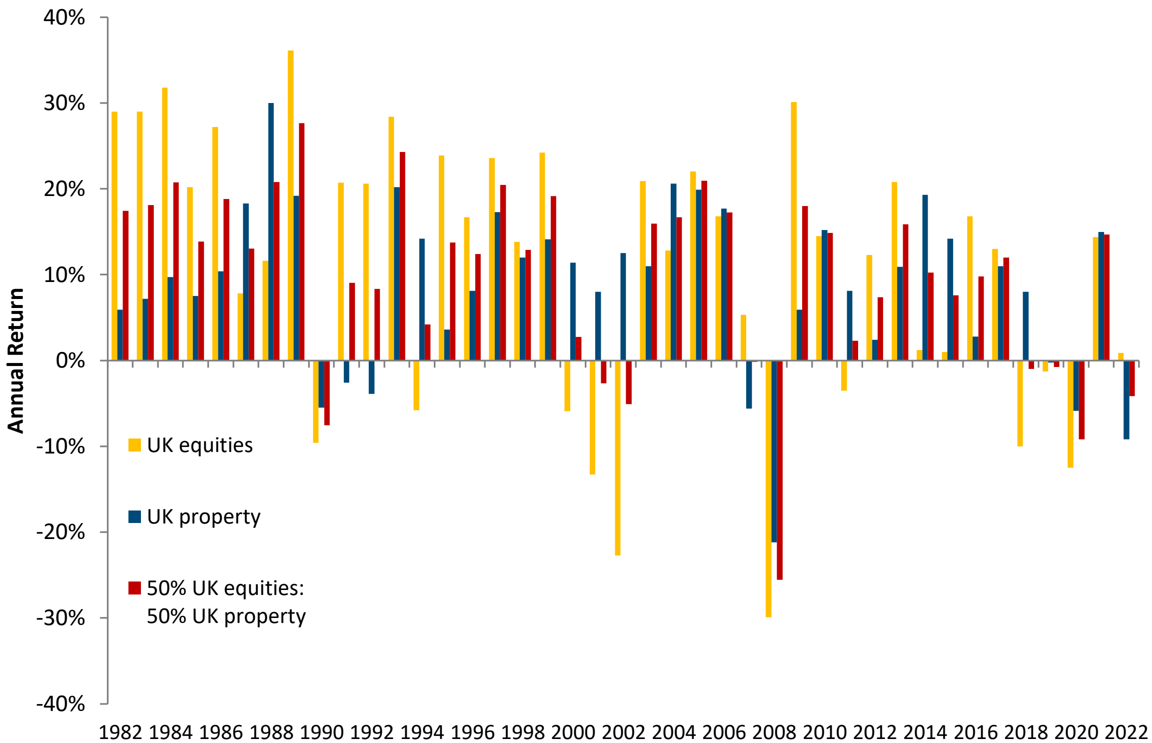
Investment Risks

Market risk	• Risk of asset value falling due to fall in wider equity markets • Sometimes referred to as ‘Growth Asset Volatility’ risk
Credit risk	• Risk of counterparty not fulfilling their obligations • Also referred to as ‘default’ risk, or ‘counterparty’ risk
Liquidity risk	• Risk of being unable to realise assets into cash without their value changing • Assets that are difficult to sell quickly often referred to as ‘illiquid’
Currency risk	• Risk of changes in exchange rates impacting the value of an asset • Applies to assets with overseas currency exposure
Interest rate risk	• Risk of changes in long-term interest rates impacting the value of an asset • For pension schemes, this can also affect the value of liabilities
Inflation risk	• Risk of changes in inflation expectations impacting the value of an asset • This also affects pension scheme liabilities

Risk Mitigations

Market risk	• Diversify holdings to reduce exposure to single market
Credit risk	• Ensure high quality counterparties • Diversify among counterparties to reduce exposure to any one defaulting
Liquidity risk	• Maintain sufficient 'cash-like' assets in portfolio • Limit exposure to 'illiquid' assets
Currency risk	• Limit exposure to any single currency, or invest in domestic assets • 'Hedge' currency risk
Interest rate risk	• Diversify holdings by maturity and issuer • 'Hedge' interest rate risk
Inflation risk	• Invest in assets linked to inflation • 'Hedge' inflation risk

Diversification



UK Equities

Average return	11% p.a.
Volatility	16%

UK Property

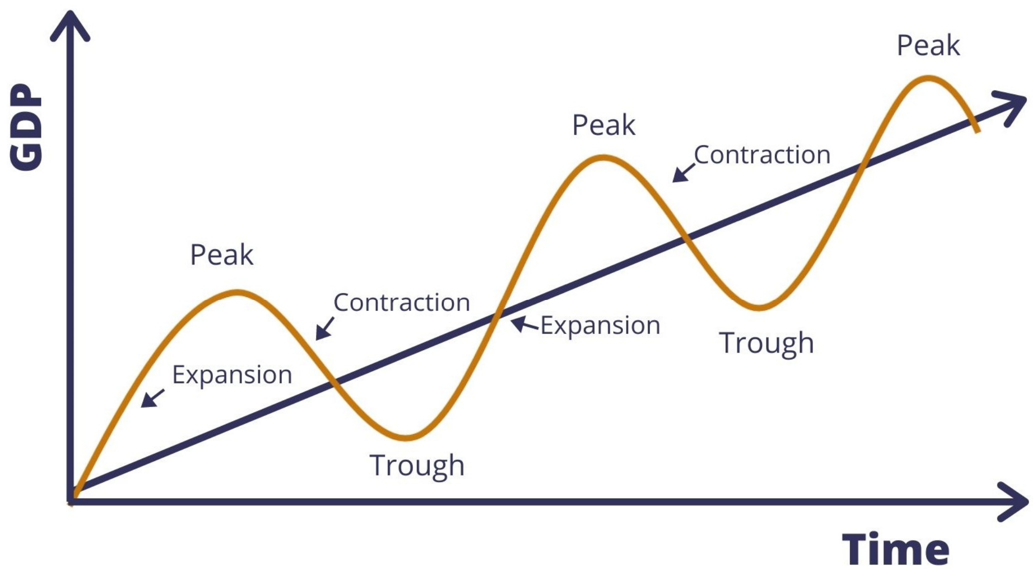
Average return	10% p.a.
Volatility	9%

50%:50% Portfolio

Average return	10.5% p.a.
Volatility	10%

The Economic Cycle

- The most commonly discussed
- Build up and release of economic pressures leads to cycles
- Returns from different investments depend on the stage of the cycle
- Four stage path not necessarily followed



Any questions?

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