



CHARTERED INSTITUTE FOR
SECURITIES & INVESTMENT

Investment Management

Level 4

Effective from 11th December 2022

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Objective of the Examination

The unit is designed to meet entry level requirements for the Investment Management industry. It is suitable for an international audience and assesses a range of core concepts that establish key value drivers, valuation techniques and performance measurement across asset classes and portfolios.

Assessment Structure

The unit will be assessed by a 2-hour examination of 80 multiple choice questions drawn from across the syllabus.

Candidates sitting the exam by Computer Based Testing may have, in addition, up to 10% additional questions as trial questions that are not separately identified and do not contribute to the result. Candidates will be given proportionately more time to complete the test.

The examination will require candidates to give consideration to the full range of solutions and products as well as the instruments on which the solutions are based.

The unit is tested at level 4 on the Regulated Qualifications Framework.

Syllabus Structure

The unit is divided into **elements**. These are broken down into a series of **learning objectives**.

Each learning objective begins with one of the following prefixes: **know**, **understand**, **be able to calculate**, **be able to analyse** or **be able to assess**. These words indicate the different levels of skill to be tested. Learning objectives prefixed:

- **know** requires the candidate to recall information such as facts, rules and principles
- **understand** requires the candidate to demonstrate comprehension of an issue, fact, rule or principle
- **be able to calculate** requires the candidate to be able to use formulae to perform calculations
- **be able to analyse** requires the candidate to review the information content in detail and draw conclusions
- **be able to assess** requires candidates to review the information content and to make an informed judgement

Candidate Update

Candidates are reminded to check the 'Candidate Update' area of the Institute's website (cisi.org/candidateupdate) on a regular basis for updates that could affect their examination as a result of industry changes.

Examination Specification

Each examination paper is constructed from a specification that determines the weightings that will be given to each element. The specification is given below.

It is important to note that the numbers quoted may vary slightly from examination to examination as there is some flexibility to ensure that each examination has a consistent level of difficulty. However, the number of questions tested in each element and/ or case study should not change by more than two.

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- 1.2 Activities
- 1.3 Ancillary Activities
- 1.4 Investment Theory
- 1.5 Investment Styles
- 1.6 Value Drivers

Element 2 Managing Client Portfolios

- 2.1 Fiduciary Issues
- 2.2 Suitability
- 2.3 Portfolio Risk
- 2.4 Market Activity
- 2.5 Operational Risk
- 2.6 Rebalancing

Element 3 Valuation

- 3.1 Company Accounts
- 3.2 ESG Factors
- 3.3 Fundamental Analysis

Element 4 Securities Valuation

- 4.1 Equities
- 4.2 Depository Receipts
- 4.3 Unlisted Investments
- 4.4 Corporate Actions
- 4.5 Money Market Securities
- 4.6 Fixed Income
- 4.7 Hybrid Investments
- 4.8 Derivatives
- 4.9 Swaps

Element 5 Collectives and other Investments

- 5.1 Collective Investments
- 5.2 Exchange-Traded Products
- 5.3 Structured Products
- 5.4 Ethical, Responsible and Sustainable Investment

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5.5 Alternative Investments

5.6 Real Estate

5.7 Foreign Exchange

5.8 Commodities

5.9 Infrastructure

Element 6 Data Analysis

6.1 Sources of Data

6.2 Big Data

6.3 Technical Analysis

6.4 Statistics

6.5 Measuring Returns

6.6 Benchmarking

6.7 Risk Adjusted Returns

Element 1 The Investment Management Industry

1.1 Investment Strategy

On completion, the candidate should:

1.1.1 know the concepts behind:

- top-down investing
- bottom-up investing
- active management
- passive management
- quantamental investment

1.2 Activities

On completion, the candidate should:

1.2.1 know investment activities associated with:

- pension funds and patient capital
- life assurance funds
- hedge funds
- retail investment funds
- family offices
- managed futures funds
- money market funds
- manager of manager funds

1.2.2 know the purpose of a centralised investment proposition

1.2.3 know different types of fund structure and underlying corporate structures

1.3 Ancillary Activities

On completion, the candidate should:

1.3.1 know the facilities offered by:

- model portfolio service providers (MPS)
- discretionary fund management (DFM) service providers

1.3.2 know relevant services provided by prime brokers

1.3.3 know relevant services provided by transfer agencies

1.3.4 understand how stock lending operates and the risks involved

1.4 Investment Theory

On completion, the candidate should:

1.4.1 be able to assess the main propositions and limitations of the efficient markets hypothesis (EMH):

- strong form
- semi-strong form
- weak form
- assumptions and shortcomings
- impact of dark pools and big data on information efficiency

1.4.2 be able to assess the main principles of modern portfolio theory, the capital asset pricing model (CAPM), its application and limitations:

- risk free rate of return
- risk premium
- cost of capital and return on capital
- excess returns
- correlation measures
- risk and diversification
- efficient frontier, portfolio optimisation and leverage

Investment management

- assumptions and shortcomings

1.4.3 be able to assess the main principles behind arbitrage pricing theory (APT), its application and limitations:

- factor structure and analysis
- macro-economic and market factors
- arbitrage theory and mechanics
- relationship with CAPM
- assumptions and shortcomings

1.4.4 know the principles of behavioural finance

1.5 Investment Styles

On completion, the candidate should:

1.5.1 be able to assess the main aims and investment characteristics of the following cash, bond and equity portfolio management strategies and styles:

- indexing/ passive management
- active/ market timing
- passive-active combinations

1.5.2 be able to assess the main aims and investment characteristics of the following cash, bond and equity portfolio management strategies and styles:

- growth/ income/ value
- market capitalization
- liability driven

1.5.3 be able to assess the main aims and investment characteristics of the following cash, bond and equity portfolio management strategies and styles:

- long, short and leveraged
- issuer and sector-specific
- high conviction and patient capital

1.5.4 be able to assess the main aims and investment characteristics of the following cash, bond and equity portfolio management strategies and styles:

- contrarian
- quantitative

1.5.5 be able to assess the main aims and investment characteristics of the following cash, bond and equity portfolio management strategies and styles:

- ethical, responsible, sustainable investment

1.6 Value Drivers

On completion, the candidate should:

1.6.1 be able to assess the macroeconomic tools and mechanisms that central banks and supranational organisations use and how they have been applied during recent economic cycles:

- quantitative easing
- control of the yield curve
- evolution of the principle of lenders of last resort
- rate controls
- other mechanisms

1.6.2 be able to assess economic factors that influence market prices:

- economic statistics
- leading and lagging indicators
- inequality of information
- market structure

1.6.3 know key factors that influence market prices:

- company announcements
- research material
- credit ratings

Investment management

- market liquidity
- bid-ask spreads
- the media

1.6.4 know how research costs are paid for

Element 2 Managing Client Portfolios

2.1 Fiduciary Issues

On completion, the candidate should:

2.1.1 understand stewardship responsibilities

2.1.2 be able to assess issues associated with conflicts of interest and the duty to clients

2.1.3 know transparency obligations

2.2 Suitability

On completion, the candidate should:

2.2.1 understand the factors to consider when establishing investment management relationships:

- mandate
- client categorisation
- objectives
- risk appetite and existing risk exposure
- suitability
- impact of fees, charges, commission and tax
- mandatory or voluntary investment restrictions
- discretionary and non-discretionary portfolio management
- limits of authority

2.2.2 know the factors that dictate effective portfolio management:

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- asset allocation
- time horizons
- liquidity requirements
- diversification

2.2.3 be able to analyse the performance of two assets to determine:

- correlation
- covariance

2.2.4 be able to analyse the relationship of two assets using regression analysis

2.2.5 understand key elements involved in managing a client portfolio:

- systematic and compliant approach to client portfolio monitoring, review, reporting and management
- selection of appropriate benchmarks to include market and specialist indices, total return and maximum drawdown
- arrangements for client communication

2.3 Portfolio Risk

On completion, the candidate should:

2.3.1 be able to assess the following types of risk and their implications for investors:

- systemic risk
- market risk – asset price volatility, currency, interest rates and commodity price volatility
- investment horizon
- liquidity

2.3.2 be able to assess the following types of risk and their implications for investors:

- credit risk and default
- counterparty risk

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- inflation
- sustainability risk

2.3.3 be able to assess how to reduce portfolio risk through diversification and hedging:

- significance of alpha and beta
- correlation and relative risk
- principles of asset allocation
- hedging and immunisation
- active and passive strategies

2.4 Market Activity

On completion, the candidate should:

2.4.1 be able to assess characteristics of:

- traditional investment exchanges
- alternative trading platforms

2.4.2 know the basic principles of algorithmic trading

2.4.3 understand the concept of volume weighted average price (VWAP)

2.4.4 know the concept of an algo wheel

2.4.5 know the principles underpinning transaction cost analysis

2.4.6 be able to assess the implications of executing transactions:

- on-exchange
- over-the-counter (OTC)

2.5 Operational Risk

On completion, the candidate should:

2.5.1 be able to assess the main operational risks in dealing internationally

2.5.2 be able to assess the risks associated with global investment:

- foreign currency risk
- country risk

2.6 Rebalancing

On completion, the candidate should:

2.6.1 be able to assess how changes can affect the management of a client portfolio:

- client circumstances
- financial environment
- new products and services available
- administrative changes or difficulties
- investment-related changes (e.g., credit rating, corporate actions)
- portfolio rebalancing
- benchmark review
- client churn
- time out of the market
- portfolio turnover cost

Element 3 Valuation

3.1 Company Accounts

On completion, the candidate should:

3.1.1 know the legal requirements to prepare accounts and the differences between private and public company requirements

3.1.2 understand the purpose and main contents of the statement of financial position:

- fixed assets
- current assets

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- current liabilities
- long term borrowing
- issued share capital
- capital reserves
- revenue reserves

3.1.3 understand the concept and implications of off-balance sheet finance

3.1.4 understand the purpose and main contents of the statement of comprehensive income:

- revenue
- cost of sales
- depreciation charge
- interest income/ expenditure
- investment income
- taxation
- profit
- extraordinary items and exceptional items
- other comprehensive income

3.1.5 know the purpose and main contents of the statement of cash flows:

- operating activities
- investing activities
- financing activities

3.1.6 understand the basic principles of accounting for:

- associated companies
- subsidiaries
- minority interests

3.2 ESG Factors

On completion, the candidate should:

- 3.2.1 know task force on climate-related financial disclosures (TCFD) and other ESG reporting mechanisms
- 3.2.2 know the concept of materiality assessments:
 - sustainability accounting standards board (SASB) materiality map

3.3 Fundamental Analysis

On completion, the candidate should:

- 3.3.1 be able to analyse financial data to determine the capital structure of a business:
 - weighted average cost of capital (WACC)
- 3.3.2 know characteristics of:
 - economies of scale
 - diseconomies of scale
- 3.3.3 be able to analyse financial data to determine:
 - net present values (NPV)
 - internal rates of return (IRR)
- 3.3.4 be able to analyse financial data to determine:
 - net profit margin
 - gross profit margin
- 3.3.5 be able to analyse financial data using the following profitability ratios:
 - return on capital employed (ROCE)
 - asset turnover
- 3.3.6 be able to analyse financial data using the following profitability ratios:
 - equity multiplier

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- economic value added (EVA)

3.3.7 be able to analyse financial data using:

- dupont financial ratio analysis
- extended dupont analysis

3.3.8 be able to analyse financial data using the following gearing ratios:

- financial gearing
- interest cover

3.3.9 know the difficulties in using ratio analysis for:

- companies in different industries
- different companies within the same industry
- the same company over successive accounting periods

3.3.10 be able to analyse financial data using the following liquidity ratios:

- working capital (current) ratio
- liquidity ratio (acid test)
- z score analysis

3.3.11 be able to analyse financial data to determine the cash cycle of a company

Element 4 Securities Valuation

4.1 Equities

On completion, the candidate should:

4.1.1 be able to assess the main investment characteristics, behaviours and risks associated with equities

4.1.2 be able to calculate using the following methods for equity valuation:

- earnings per share (EPS)
- historic and prospective price earnings ratios (PERs)
- dividend yields

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- dividend cover
- price to book

4.1.3 understand equity valuations based on dividends:

- Gordon's growth model

4.1.4 be able to analyse financial data to determine:

- earnings before interest and tax (EBIT)
- earnings before interest, tax, depreciation, and amortisation (EBITDA)

4.2 Depository Receipts

On completion, the candidate should:

4.2.1 be able to assess the purpose, main investment characteristics, behaviours and risks of depository receipts:

- American depository receipts
- global depository receipts
- beneficial ownership rights
- structure
- unsponsored & sponsored programmes
- transferability

4.3 Unlisted Investments

On completion, the candidate should:

4.3.1 know the main investment characteristics, behaviours and risks associated with venture funding

4.3.2 know the main investment characteristics, behaviours and risks associated with private equity investment

4.4 Corporate Actions

On completion, the candidate should:

4.4.1 understand the purpose and structure of corporate actions and their implications for investors:

- stock capitalization or consolidation
- stock and cash dividends
- rights issues
- open offers, offers for subscription and offers for sale
- placings

4.4.2 be able to analyse the theoretical effect on the issuer's share price of the following mandatory and optional corporate actions:

- bonus / scrip
- consolidation
- rights issues

4.5 Money Market Securities

On completion, the candidate should:

4.5.1 know the main investment characteristics, behaviours and risks associated with money market securities

4.6 Fixed Income

On completion, the candidate should:

4.6.1 be able to analyse investment characteristics, behaviours and risks of the following bond classes:

- supranational
- sovereign government
- public authority: local government/ municipalities

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4.6.2 be able to analyse investment characteristics, behaviours and risks of:

- short, medium and long dated bonds
- dual dated bonds
- undated bonds

4.6.3 be able to analyse investment characteristics, behaviours and risks of the following bond classes:

- floating rate
- zero coupon

4.6.4 be able to analyse investment characteristics, behaviours and risks of secured debt:

- corporates
- financial institutions and special purpose vehicles
- fixed and floating charges
- debentures
- types of asset-backed securities
- mortgage-backed securities
- securitisation process
- roles of participants

4.6.5 be able to analyse investment characteristics, behaviours and risks of the following types of unsecured debt:

- income bonds
- subordinated
- high yield
- mini bonds
- rating

4.6.6 be able to analyse investment characteristics, behaviours and risks of index-linked debt:

- retail price index as a measure of inflation

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- process of index linking
- indexing effects on price, interest and redemption
- return during a period of zero inflation

4.6.7 be able to analyse fixed income securities using the following valuation measures:

- flat yield
- nominal and real return
- gross redemption yield
- net redemption yield
- yield curve analysis

4.6.8 be able to analyse fixed income securities using:

- Macaulay duration
- modified duration

4.6.9 know the main bond pricing benchmarks and how they are applied to new bond issues

4.6.10 know the characteristics and uses of strips and repos:

- use in packaged products
- which gilts are suitable for stripping
- resulting number of securities
- coupon and redemption payments
- as zero-coupon bond
- payment dates

4.6.11 be able to analyse the factors that influence bond pricing:

- gross redemption yield
- credit rating
- impact of interest rates
- market liquidity
- clean and dirty prices

4.6.12 be able to analyse characteristics of the yield curve:

- normal
- flat
- inverted

4.6.13 be able to calculate:

- simple interest income on corporate debt
- conversion premiums on convertible bonds
- flat yield
- accrued interest (given details of the day count conventions)

4.6.14 be able to assess the main bond strategies:

- bond switching
- riding the yield curve
- immunisation
- rate anticipation
- horizon analysis
- barbell/ bullet/ ladder portfolios

4.7 Hybrid Investments

On completion, the candidate should:

4.7.1 be able to analyse investment characteristics, behaviours and risks associated with convertible bonds

4.7.2 know the main investment characteristics, behaviours and risks associated with mezzanine finance

4.8 Derivatives

On completion, the candidate should:

4.8.1 know characteristics of:

- options

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- warrants
- futures
- forwards

4.8.2 understand common value drivers for derivative instruments:

- delta
- gamma
- theta
- vega

4.8.3 know the characteristics and relevant application of:

- historic volatility
- implied volatility
- the Chicago board options exchange's volatility index (VIX)

4.9 Swaps

On completion, the candidate should:

4.9.1 know the purpose, key characteristics, benefits, costs and valuation of:

- interest rate swaps and swaptions
- types of swap agreements: vanilla, basis, coupon, index and currency
- interest calculations (compared to bond markets)
- quality spread differentials
- foreign exchange forwards and swaps
- equity forwards, swaps and swaptions (volatility, bullet and variance)

Element 5 Collectives and other Investments

5.1 Collective Investments

On completion, the candidate should:

5.1.1 know the factors to consider when selecting collective investments:

- due diligence
- total expense ratios
- ongoing charges figure
- turnover ratios
- assessment of value report

5.1.2 know why investment trusts and open-ended funds may be valued differently

5.2 Exchange-Traded Products

On completion, the candidate should:

5.2.1 know the key features, accessibility, risks, tax treatment, charges, valuation and yield characteristics of the main types of exchange-traded products

5.3 Structured Products

On completion, the candidate should:

5.3.1 know the key features, accessibility, risks, valuation and yield characteristics of the main types of retail structured products and investment notes:

- structure
- income and capital growth
- investment risk and return
- counterparty risk
- expenses
- capital protection

- tax efficiency

5.4 Ethical, Responsible and Sustainable Investment

On completion, the candidate should:

5.4.1 be able to assess investment characteristics associated with ethical, responsible and sustainable investment:

- green bonds
- blue bonds
- impact debt
- social bonds
- sustainability bonds

5.4.2 know investment characteristics associated with carbon as an asset class

5.4.3 know valuation and screening tools specific to ESG investment

5.5 Alternative Investments

On completion, the candidate should:

5.5.1 know the main investment characteristics, behaviours and risks associated with alternative investments:

- hedge funds (single and fund of funds)
- crypto currencies
- non-fungible tokens

5.6 Real Estate

On completion, the candidate should:

5.6.1 know the main investment characteristics, behaviours and risks associated with property investment

5.6.2 be able to calculate the yield of a property investment

5.6.3 know internationally accepted approaches to property valuation:

- red book global standards (RICS)
- international valuation standards council (IVSC) international valuation standards (IVS)
- association of real estate funds (AREF) guidelines

5.6.4 know sustainability measures for real estate investment:

- global real estate sustainability benchmarks (GRESB)

5.7 Foreign Exchange

On completion, the candidate should:

5.7.1 know the main investment characteristics, behaviours and risks associated with currency investment

5.8 Commodities

On completion, the candidate should:

5.8.1 know the main investment characteristics, behaviours and risks associated with commodities

5.9 Infrastructure

On completion, the candidate should:

5.9.1 know the main investment characteristics, behaviours and risks associated with infrastructure

Element 6 Data Analysis

6.1 Sources of Data

On completion, the candidate should:

6.1.1 know relevant sources of data:

- primary sources

- secondary sources
- sampling
- continuous and discrete
- categorical data
- frequency and relative frequency distribution
- presentation methods

6.2 Big Data

On completion, the candidate should:

6.2.1 know the application of big data in the investment management industry

6.3 Technical Analysis

On completion, the candidate should:

6.3.1 know the basic principles underpinning chart-based analysis:

- overlays
- oscillators

6.4 Statistics

On completion, the candidate should:

6.4.1 be able to calculate the measures of central tendency:

- arithmetic mean
- geometric mean
- median
- mode

6.4.2 be able to analyse data to determine the following measures of dispersion:

- variance (sample/ population)
- standard deviation (sample/ population)
- range

6.5 Measuring Returns

On completion, the candidate should:

- 6.5.1 be able to analyse performance to determine total return
- 6.5.2 be able to analyse performance to determine the money-weighted rate of return
- 6.5.3 be able to analyse performance to determine the time-weighted rate of return
- 6.5.4 understand the types and uses of multi-factor models, their assumptions and limitations

6.6 Benchmarking

On completion, the candidate should:

- 6.6.1 be able to assess a range of mainstream and specialist indices in relation to:
 - composition
 - weighting
 - yield
 - synthetic dividend (where applicable)
 - smart beta
- 6.6.2 know the characteristics of a composite (synthetic) benchmark
- 6.6.3 know key aspects of the global investment performance standards (GIPS)
- 6.6.4 be able to calculate the deviations from a performance benchmark attributable to:
 - actual versus relative performance

- asset allocation
- stock selection

6.7 Risk Adjusted Returns

On completion, the candidate should:

6.7.1 know what the following financial metrics are designed to measure:

- Sharpe ratio
- Treynor ratio
- Jensen measure
- Sterling ratio
- Calmar ratio
- Omega ratio

6.7.2 be able to analyse performance using the Sharpe ratio

6.7.3 be able to analyse performance using the Treynor ratio

6.7.4 be able to analyse performance using the Jensen measure