



The new ACI Diploma

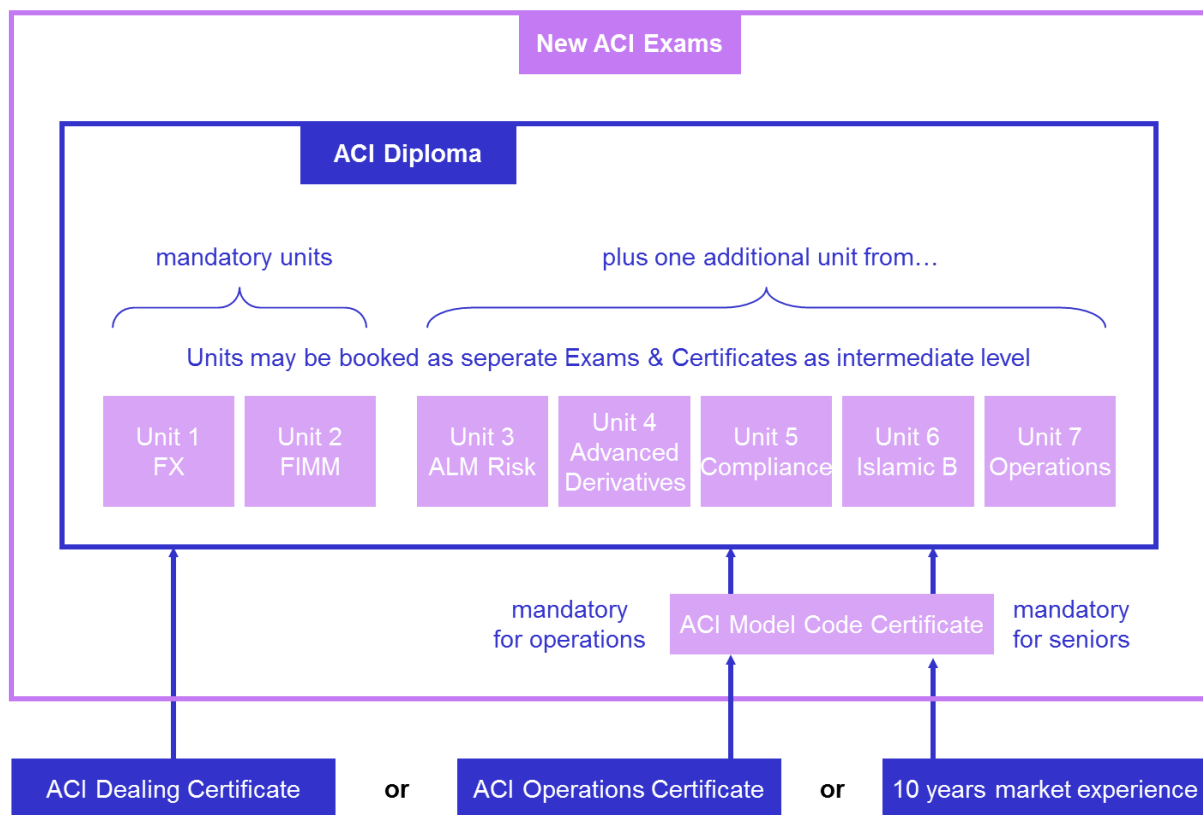
Unit 3 Asset, Liability & Risk Management

Effective October 2014

*“Setting the benchmark in
certifying the financial
industry globally”*

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The new ACI Diploma



Objective of the new ACI Diploma

The new ACI Diploma builds on the ACI Dealing Certificate and the ACI Operations Certificate and is designed to ensure that candidates acquire a superior theoretical and practical knowledge of the foreign exchange and money markets, their related instruments, and the linkages that exist between those markets and the practice of risk management. Candidates are expected to have acquired a solid grounding in the core subject areas and have the requisite skills in financial mathematics prior to matriculating for the Diploma.

The course is designed for the following groups:

- Senior foreign exchange and money market dealers
- Corporate and bank treasurers
- Senior operations staff

Eligibility

In order to become eligible for the new ACI Diploma examination you either need to be:

- holder of the ACI Dealing Certificate or
- holder of both the ACI Operations Certificate and the ACI Model Code Certificate examination or
- a senior practitioner with ten years' work experience in financial markets and you need to pass the ACI Model Code Certificate examination. In this case you have to submit your CV to the ACI Board of Education which will decide on your eligibility.

Learning Objectives

- **Know:** Candidates should be able to recall what they have learned
- **Understand:** Candidates should be able to demonstrate comprehension on what they have learned
- **Apply:** Candidates should be able to use what they have learned to achieve an accurate result
- **Analyse:** Candidates should be able to review content and make an informed decision and draw conclusions
- **Evaluate:** Candidates should be able to extract meaning from what they have learned

Objective of Unit 3

Asset, Liability and Risk Management

Asset Liability Management (ALM) is Banking Book Risk Management. ALM covers liquidity, interest rate risk in the banking book, the treatment of forex exposures arising from banking book positions as well as any and all structural issues of bank balance sheet management including a high level perspective on credit risk.

ACI Diploma holders should understand the fundamental challenges of banking book management in commercial banks and other retail lenders. These include the behavioural risks and embedded optionalities in client assets and liabilities that may impact the liquidity, interest rate risk and forex profile of the institution. Solid knowledge of long-term funding opportunities, capital adequacy, regulatory constraints and supervisory review expectations vis-à-vis internal risk management practices will also be covered.

With this appreciation of the underlying issues in ALM, ACI Diploma holders will be in a position to structure derivatives, propose hedging strategies and devise other balance sheet management solutions for retail banking counterparties and in-house business lines.

Topic Basket 1

Fundamentals of Asset & Liability Management

The candidate should:

- Know how to define Asset Liability Management, identify its scope and enumerate the main practical challenges in managing classic banking book exposures.
- Understand the typical organization and governance of ALM practice: the role of the Risk Management, Treasury, ALM Department and various executive and board committees. Understand how risk tolerance is determined at governance level and translated into appropriate policies, processes and controls.
- Understand and explain the role of ALM in terms of business development, strategic planning, long-term funding, capital management, the Internal Capital Adequacy Assessment Process (ICAAP) and the Internal Liquidity Adequacy Assessment Process (ILAAP).
- Know how to position Treasury, i.e. the transactional dimension of ALM, as a distinct business unit (profit centre) and identify its internal and external clients / counterparties and primary sources of revenue.
- Apply the organizational principles of ALM and analyse how ALM interacts with credit risk at the portfolio level (concentrations, capital adequacy, stress testing).
- Understand the evolving regulatory guidance issued by the Basel Committee on Banking Supervision (BCBS) and national financial sector authorities. Successful candidates will retain the essential directives put forward by the following source documents:
 - BCBS: Core Principles for Effective Banking Supervision, 2012;
 - BCBS: Principles for Enhancing Corporate Governance, 2010;
 - BCBS: Basel II - International Convergence of Capital Measurement and Capital Standards, 2006 - with a focus on Pillar 2: Supervisory Review and ICAAP;
 - BCBS: Principles for Sound Stress Testing Practices and Supervision, 2009;
 - BCBS: Basel III - A global regulatory framework for more resilient banks and banking systems, revised June 2011;
 - US: Dodd – Frank Wall Street Reform and Consumer Protection Act, 2010 including the Volcker Rule.

- Understand the emerging regulation of the OTC derivatives markets post the global financial crisis:
 - Markets in Financial Instruments Directive/Regulation (MiFID II/ MiFIR).

Topic Basket 2

Interest Rate Risk in the Banking Book

The candidate should:

- Understand the principles of interest rate risk in the banking book
 - Know how to define interest rate risk in the banking book and identify underlying sources and drivers of interest rate exposure (repricing, yield curve effects, basis risk, optionalities);
 - Understand the market requirements for suitable rate references and potential problems related to using traditional money market panels;
 - Understand the imperfections of a duration hedge;
 - Understand the evolving regulatory guidance issued by the Basel Committee on Banking Supervision (BCBS) and national financial sector authorities. Successful candidates will retain the essential directives put forward by the following source documents:
 - BCBS: Principles for the Management and Supervision of Interest Rate Risk, 2004.
- Apply techniques to measure and deal with interest rate risk
 - Apply the classic tools of interest and time value of money analysis: yield, yield curves (definitions, calculation and estimation), net present value, modified duration, basis point value and convexity;
 - Understand the fundamental approaches to interest rate risk measurement: static versus dynamic, near-term earnings perspective versus economic value;
 - Analyse the data inputs, interpretation and model limitations of the following basic rate risk analyses:
 - Repricing Gap (static, evolution),
 - Duration Gap, Modified Duration of Equity,
 - Cash flow mapping and contract-by-contract NPV Balance Sheet,
 - Dynamic rate risk simulation and stress testing,
 - Value at Risk (VaR) and banking book interest rate sensitivity.
 - Apply advanced models and extensions for interest rate risk measurement that may accommodate the following complex challenges:
 - Embedded options models (caps & floors, callability, commitments),
 - Retail credit prepayment behaviour,

- Non-maturity (revolving) assets and liabilities: re-pricing and prolongation behaviour of retail demand and term deposits, until-further-notice assets etc.
 - Apply and calculate the change in market value of a interest bearing portfolio given a modified duration and an interest rate scenario;
 - Apply and calculate the appropriate duration hedge given the relevant modified duration.
- Apply principles of modern fund transfer pricing (FTP) to practical ALM issues:
 - Basic logic of fund transfer pricing system,
 - ALM / Treasury as profit centres in a FTP system,
 - Market-based funds transfer pricing curves and necessary adjustments / fine-tuning,
 - Pricing empirical / behavioural elements in retail assets and liabilities, e.g. replicating schedules of retail deposits,
 - Managing interest rate risk in a decentralized branch organization with FTP incentives.
- Apply the accounting principles governing the recognition and valuation of financial instruments as per IAS 39 and IFRS 9
 - Financial instruments: Presentation (IAS 32), Disclosures (IFRS 7), Recognition and Measurement (IAS 39);
 - IAS 39: fair value and impairment;
 - IAS 39: Classification of financial assets (Loans & Receivables, Fair Value through PL, Held-to-Maturity, Available for Sale, Derivatives);
 - IAS 39: Fair Value Option and practical fair value issues;
 - IAS 39: Hedge accounting;
 - IFRS 9: objectives, structure, implementation, transition, changes & options versus IAS 39.

Topic Basket 3

Forex Exposures in the Banking Book

The candidate should:

- Understand the principles of forex exposures in the banking book
 - Understand the sources of client-driven forex exposures in retail and commercial banking;
 - Know the fundamental drivers of exchange rate developments (i.e. balance of payments, monetary and fiscal policies, macroeconomic indicators);
 - Understand non-traditional forex risk: transfer and convertibility risk, currency induced credit risk and macroeconomic stress scenarios;
 - Understand how multicurrency retail operations are integrated into the funds transfer pricing framework.

- Understand and show solid working knowledge in the context of forex positions
 - Structure and evaluate traditional forex instruments for managing banking book exposures and macro forex hedges;
 - Evaluate management strategies for hedging currency risk on future Profit & Loss;
 - Analyse the benefits, risks and prudential implications of structural forex positions and equity hedges in local currency environments with structural devaluation bias;
 - Evaluate exposure measurement (open positions, VaR, holding periods etc.) and limit setting in respect to banking book forex positions.

Topic Basket 4

Liquidity Management

The candidate should:

- Understand the concepts of Liquidity Management:
 - Analyse Liquidity Management practices and analytical tools in large decentralized financial institutions:
 - Cash flow planning,
 - Modelling behavioural elements in credit demand and the utilization of revolving facilities,
 - Analytical framework for retail deposit supply behaviour,
 - Liquidity stress testing and liquidity gaps,
 - Understand the concept of Basel III liquidity measures and requirements, i.e. LCR and NSFR as well as the broader context of the ILAAP,
 - Analyse bank funding instruments and strategies:
 - Fundamentals of central bank monetary policy instruments and operations,
 - Non-conventional monetary policy instruments devised by ECB and Federal Reserve, HKMA, MAS, Japan and their impact on bank balance sheets: zero-rate policies, quantitative easing, long-term financing operations (LTRO).
- Apply solid working knowledge in the context of Liquidity Management
 - Apply and calculate the LCR and NSFR given selected balance-sheet items, weightings and stress scenarios;
 - Understand High Quality Liquid Assets (HQLA), repo-eligibility and asset encumbrance;
 - Apply the principles of collateral management with respect to central bank repos, interbank secured money market transactions and the collateral requirements of various central counterparty and exchange platforms;
 - Analyse and advise counterparties on the basics of the prudential treatment of structured investments and securitizations (capital adequacy, liquidity, repo-eligibility).

- Understand the evolving regulatory guidance issued by the Basel Committee on Banking Supervision (BCBS) and national financial sector authorities. Successful candidates will retain the essential directives put forward by the following source documents:
 - BCBS: Principles for Sound Liquidity Risk Management and Supervision, 2008;
 - BCBS: Basel III - International framework for liquidity risk measurement, standards and monitoring, 2010;
 - UK FSA: Policy Statement 09/16 Strengthening Liquidity Standards, 2009.
- Know Funding instruments:
 - The future of senior unsecured bank issuance,
 - Securitizations and covered bonds,
 - OTC and exchange traded repo markets,
 - Traditional unsecured money market, certificate of deposit and commercial paper; Evaluate trading strategies in instruments qualifying as HQLA for retail bank counterparties.

Topic Basket 5

Credit Risk

The candidate should:

- Understand the principles of credit risk
 - Understand credit and counterparty risk and explain the underlying factors determining the incidence of annual credit portfolio losses ($EL = PD * EAD * LGD$);
 - Understand the difference between expected loss and unexpected loss;
 - Understand the capital requirements for derivatives;
 - Understand the basics of the prudential capital adequacy treatment of banking book credit exposures (Basel Accord, Standardized Approach, Internal Ratings Based approaches);
 - Know the definitions and modern regulatory approaches to settlement risk and counterparty credit risk: rollover risk, general and specific wrong-way risk, credit valuation adjustments (CVAs), credit conversion factors.
- Show solid working knowledge in the context of credit risk
 - Know how the bank charges the counterparty for the costs of expected and unexpected loss;
 - Know the properties of an annual portfolio loss distribution and the subadditivity of credit risk in diversified portfolios;
 - Evaluate how credit risk should be priced in a Risk-Adjusted Return on Capital (RAROC) approach;
 - Analyse the instruments, contracts and trading practices giving rise to counterparty credit risk and settlement exposures.

- Understand the emerging regulation of the OTC derivatives markets post the global financial crisis:
 - Group of Twenty (G20) Sep 2009 initiative, Dodd-Frank Act 2010, move to central counterparty clearing of traditional OTC derivatives;
 - European Market Infrastructure Regulation (EMIR).
 - BCBS / IOSCO proposals for bilateral margining of non-centrally cleared OTC derivatives.
 - Basics of Credit Value Adjustment (CVA) on credit-risky counterparties and Debt Valuation Adjustment (DVA) that incorporates the cost of one's own default imposed by counterparties.
 - Distinguish between payment netting, netting by novation and close-out & set-off;
 - Explain the working of a central clearing counterparty (CCP).

Topic Basket 6

Market Risk

The candidate should:

- Evaluate Interest Rate Risk management strategies in the banking book in the context of:
 - IAS 39 Fair Value of financial instruments, the Fair Value Option
 - The basics of IAS39 / IFRS 9 hedge accounting
 - Using OTC derivatives and exchange traded instruments for the purposes of macro hedging strategies for interest rate risk exposures in the banking book.
- Understand the principles of market risk
 - Know the definition of risk capital, explain its role in covering unexpected losses, distinguish between economic and regulatory risk capita;
 - Evaluate capital requirements for spot and forward FX, cash money market instruments, FRAs, and money market futures and swaps transacted with OECD central governments, OECD banks and corporates under the Basel II Accord and, in the case of repo under Basel rules;
 - Understand the roles of stress testing and back testing.
- Understand the regulatory requirements concerning market risk
 - Understand the evolving regulatory guidance issued by the Basel Committee on Banking Supervision (BCBS) and national financial sector authorities. Successful candidates will retain the essential directives put forward by the following source documents:
 - BCBS: Basel 2.5 -Enhancements to the Basel II Framework, 2009
 - BCBS: Revisions to the Basel II Market Risk Framework, 2009
 - Understand the purpose of the Basel Committee and outline the architecture of the Basel rules.
- Understand different approaches to measure market risk and show solid working knowledge
 - Understand the differences between parametric (statistical) and non-parametric measures of risk, and between the main non-parametric methods, and explain when each approach is appropriate;

- Know value-at-risk (VaR);
- Understand the key assumptions in a VaR calculation (holding period, observation period and confidence interval);
- Understand the key assumptions underlying VaR (randomness, linearity and normal market conditions) calculate the VaR of a single future cashflow;
- Understand the difference between undiversified and diversified VaR;
- Know Volatility calculations: convert volatility between an annualised basis and higher frequencies, etc.;
- Know the different types of market risk (Interest Rate, Equity, Currency, Commodity);
- Understand the Limitations of VaR;
- Understand the concept of Expected Shortfall;
- Understand quantitative techniques (Loss Distributions, Variance-Covariance Method, Historical Simulation , Monte Carlo);
- Evaluate different limit structures in the dealing room.

Examination Procedure

Format: The examination lasts 2.5 hours (150 minutes) and consists of 90 multiple-choice questions.

Calculators: Some questions will require the use of a calculator. A basic one will be provided on the computer screen. You may also use your own hand-held calculator, provided it is neither text programmable nor capable of displaying graphics with a size more than 2 lines.

Score criteria: The overall pass level is 60% (54 correct answers), assuming that the minimum score criteria of 50% for each of the topic baskets is met.

#	Topic basket	Topic weight	Topic basket criteria		
			Number of questions	Minimum score	Correct answers
1	Fundamentals of Asset & Liability Management	17.8%	16	50%	8
2	Interest Rate Risk in the Banking Book	20.0%	18	50%	9
3	Forex Exposures in the Banking Book	11.1%	10	50%	5
4	Liquidity Management	20.0%	18	50%	9
5	Credit Risk	11.1%	10	50%	5
6	Market Risk	20.0%	18	50%	9
Total		100%	90		

Grades

Pass 60% - 69.99% (54 – 62 correct answers)
Merit 70% - 79.99% (63 – 71 correct answers)
Distinction 80% and above (72 correct answers and more)

Examination Fee

250 EUR, all taxes included. Fee for unit 1 and 2 is 400 EUR if taken in one sitting.