



Final Syllabus

Financial Information Associate

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1 THE MARKETS

A candidate must be able to demonstrate a broad understanding of the markets that generate and make use of the complex array of information and content characterized as market data. They must understand that different types of organisation have different requirements for data; they must understand what these differences are and why such different requirements exist.

1.1 THE ROLE OF THE FINANCIAL MARKETS

A candidate should be able to understand the role of the financial markets, their structure and the capital formulation process. A candidate must be able to understand the broad structures and makeup of the global financial markets.

- Where, how and why is capital created and for what purpose
- What is meant by financial intermediation
- Who are the participants in the investment process
- What is the role of exchanges and related trade crossing services
- What is the role of government and regulatory agencies
- What is the role of market data in the financial markets

1.1.1 THE TRADE LIFECYCLE

A candidate should understand the overall concept of the trade lifecycle:

- Pre trade price discovery
- Pre trade risk management and compliance assessment
- Trading venue selection – the Trade
- Post trade confirmation
- Post trade clearing and settlement

1.2 PARTICIPANTS IN THE FINANCIAL MARKETS

They should understand what the major types of institution are, what their broad characteristics are and what role they play.

1.2.1 THE SELL SIDE

A candidate should understand what types of organisation fall under the broad category of being a 'Sell Side' institution.

- Investment banks and their role in the primary issuance of equities and bonds
- Investment banks and their role in advising clients on Mergers and Acquisitions
- Investment banks and their role in providing Corporate and/or Project Finance
- Investment banks and Brokerage Houses role in:
 - Acting as 'Agency Brokers' on behalf of their clients
 - Provision of advice through Equity Analysts

- Full service, low touch and no touch (e.g. DMA) services
 - Execution services including Algo Trading
 - 'Prime Brokerage' services
 - Acting as 'Principal' in transactions i.e. "Proprietary Traders"
- Commercial and Retail Banks providing bank services to corporations and individuals

1.2.2 THE BUY SIDE

A candidate should understand what types of organisation fall under the broad category of being a 'Buy Side' institution.

- Traditional "long only" asset management firms
 - Describe the role of Fund Managers
 - What are Mutual Funds, Unit Trusts, Investment Trusts
- Other buy side participants
 - Describe the role of Banks, Insurance Companies, Pension Plan Sponsors
- Hedge Funds
 - What is a Hedge Fund
 - How do Hedge Funds differ from traditional asset management firms

1.2.3 EXCHANGES AND OTHER INTERMEDIARIES

A candidate should understand the different types of Exchange and broadly understand the regulatory framework they operate within.

Equities (Stock Exchanges)

- What do they do – Listing, Trading, Settlement , Data etc
- Who are the main organizations globally e.g. NYX, NasdaqOMX, Deutsche Borse, LSE Group, , TMX, etc
- In what ways are they automated and why does that matter
- What is 'Floor Trading' and does it still exist
- Commodities (Futures and Options) Exchanges
 - What do they do
 - Who are the main organisations e.g. CME and ICE
 - How are they automated
 - Does Floor Trading still exist – how does it work
- Alternative Trading Systems (ATS) and Multilateral Trading Facilities (MTF), ECN electronic communications networks
 - What are these
 - Where do they exist and why
 - How did they evolve
 - What regulatory framework do they operate under
 - Electronic Trading
- Fixed Income, FX and Other non exchange traded instruments

- The role of the inter dealer broker
 - Evolution of Voice and electronic trading
 - The issue of counterparty credit management
- Role of Dealing3000, Bloomberg Trading and EBS (now part of ICAP)

1.3 ROLE OF GOVERNMENT, CENTRAL BANKS AND REGULATORY AUTHORITIES

A candidate should understand the role and function of government, central banks and regulatory authorities that govern the financial markets.

- What are the key regulatory bodies (SEC, FSA, Fed and *central banks*, etc)
- How do regulatory bodies impact market data and securities at a conceptual level, such as listings, ownership restrictions and trading rules.

1.4 PRIMARY BUSINESS FUNCTIONS AND RESPONSIBILITIES

A candidate should understand and be able to describe the role and function of the primary business functions of the various departments in a financial institution, and the type of market data the department would generate or consume:

- | | |
|--------------------------|---|
| • Trading Floor | • Corporate Actions |
| • Securities Research | • Performance & Attribution |
| • Portfolio Management | • Automated Execution Services (Algo Trading) |
| • Risk Management | |
| • Settlement & Clearing | |
| • Pricing and Accounting | |
| • Securities Lending | |

In addition a candidate should understand the following phrases:

- | | | |
|----------------|---------------|-----------------|
| • Front Office | • Back Office | • Middle Office |
|----------------|---------------|-----------------|

A candidate should be able to recognize broad job functions/titles:

- | | | |
|------------|----------------|---------------------|
| • Trader | • Sales Trader | • Portfolio Manager |
| • Salesman | • Analyst | • 'Quant' |

1.5 MAJOR CLASSES OF ASSETS

A candidate should understand at a high level the primary asset classes.

- What are Equities and the key groups (common, preferred, ADR, etc)
- What are ETFs and CFDs
- What are Fixed Income instruments (e.g. Bonds) and the key groups (corporate, govt, agency, asset backed, municipal)
- What are the short term Money Markets
- What is FX and what are Spot, Forwards and Swaps

- What are Commodities (e.g. Softs, Oil, Metals - including precious)
- What are Futures and Options, and what are the basic characteristics of each.
- What are Credit Derivatives e.g. CDOs and CDSs
- What are Structured Products

What are the broad data requirements/interests of such groups.

A candidate should understand the broad job functions within, consumer and vendor Firms. In many cases one person may be responsible for one or more job functions, these job functions are often called different things in different organisations.

1.6 MARKET AND REFERENCE DATA JOB FUNCTIONS

A candidate should understand the broad characteristics of various generic roles within the market and reference data sectors.

1.6.1 CONSUMER FIRMS

Commercial

- *Business Analysts* – tasked with liaising with end users to find out what their data requirements are
- *Procurement and Vendor Management* – tasked with negotiating the best deals with a vendor
- *Administration including Billing/Invoicing* – tasked with processing and tracking contracts and invoices.
- *Inventory Management* – tasked with keeping track of which services are being used and by whom
- *Contracts Management* – a specialized task of keeping track of contracts and associated terms and conditions.

Technical/IT (Engineering)

- *Selection* – tasked with reviewing choices and making a selection
- *Implementation* – tasked with physically deploying new software and systems
- *Support and Maintenance* – tasked with looking after existing software and systems
- *Software/Systems Development* – tasked with creating new software and systems (as opposed to buying them in from a supplier)

Customer Facing

- *Trainers* – tasked with educating users on the functionality and content of services
- *Customer Support* – tasked with responding to specific problems or requests from customers, often via a telephone helpline.
- *Account Manager (sales)* – tasked with managing the relationship with the customer which would include either increasing revenues or maintaining them.
- *New Business (sales)* – tasked with generating brand new business revenues often from new customers or new departments within existing customer groups.
- *Administration and Billing* – tasked with generating invoices and collecting payment

Office – cross customer

- *Product Management* – tasked with managing a product or service as a business. This would include collecting and recording market requirements as well as understanding the P&L economics of a given product/service
- *Product Development* – tasked with actually developing a product/service (as probably defined by product management)
- *Marketing Communications* – tasked with such things as PR, Advertising and the production of collateral such as brochures etc.

2 THE DATA

A candidate must understand the different types of data used in the market, where that data comes from originally, who delivers it to customers, the many different ways that data is used and broadly what are the types of commercial model deployed for charging for it.

2.1 SOURCES

A candidate must have a thorough understanding of the different sources of data and the implications of what that means for the use the data.

2.1.1 CONTRIBUTED DATA

- What is contributed data
- Who typically are the contributors of data and why do they contribute
- How do organizations contribute data
- What types of data are typically contributed
- What is the debate surrounding who owns contributed data

2.1.2 EXCHANGE (AND SIMILAR E.G. MTF, ATS AND IDB ETC) GENERATED DATA

- What is Exchange Data
- Why do Exchanges (and other similar entities) distribute data
- What types of data do Exchanges generate and distribute
- What do phrases like Level 1 and Level 2 typically mean
- What is an order book and how does it relate to data e.g. the phrase “full order book”
- What does “Best Bid and Offer” (e.g. NBBO) mean and why is it important
- How do Exchanges distribute their data
- What are the differences between “Direct” and “Indirect” distribution
- What is “Latency” and why does it matter

2.1.3 VENDOR GENERATED DATA

- What types of data do vendors generate
- Where do News and Commentary come from
- How do vendors add value to data from other sources
- What does the phrase “Aggregator” mean

2.1.4 DATA ON THE INTERNET (WWW)

- What data might be found on the Web
- What are the pros and cons of data from the Web
- What are the main locations of financial data on the Web e.g. Google Finance

2.2 TYPES

A candidate must have a broad understanding of the different types of data.

2.2.1 MARKET DATA

- What does the phrase “Market Data” typically mean
- What are the main constituent elements of “Price Data”
- What do fields like ‘Bid’, ‘Offer’, ‘Last’, ‘High’, ‘Low’, ‘Volume’ etc mean
 - A candidate should understand a broad range of field types
 - How do different field types relate to Asset Classes

A candidate should understand the meaning, relevance and inter relationships of the following:

- Real-Time
- Delayed
- Snapshot (Static)
- Full Tic
- Conflated

A candidate should understand the broad meaning and significance of:

- Update rates (traffic/throughput)
- Latency
- Redundancy

2.2.2 FUNDAMENTAL DATA

A candidate should understand what the phrase “Fundamental Data” refers to.

- What are economic fundamentals
- What are company fundamentals
- What format(s) is Fundamental Data typically provided in

2.2.3 HISTORICAL AND TIME SERIES DATA

A candidate should have a broad understanding of:

- What is Historical/Time series Data
- How is Historical Data used
- The recent growth in the importance of Historical Data
- How is Historical Data typically supplied and/or created
- What do phrases like “intraday”, “interday” and “EOD” mean

2.2.4 VALUATIONS DATA

Candidates should understand the overall concept of evaluated pricing in the context of illiquid and hard to value instruments.

- What do phrases like “mark to market” and “mark to model” mean
- What is “fair value”

2.2.5 CREDIT RATINGS

A candidate should have a broad understanding of:

- What a credit rating is and what a credit rating agency is.
- What data is provided by the major Credit Rating Agencies

- Who the main credit rating agencies are:
 - S&P, Moodys, Fitch, etc...

2.2.6 INDICES

A candidate should understand:

- What an Index is
- What companies produce Indices
 - FTSE, Dow Jones, S&P, MSCI, Russel, etc..
- How are Indices paid for by customers
 - How does Index licensing work

2.2.7 NEWS AND COMMENTARY

A candidate should understand:

- The role of News and Commentary (i.e. text) as it sits alongside numeric data
- What is the difference between “News” and “Commentary”
 - Who are the major News Providers e.g. Reuters, Bloomberg, Dow Jones

2.2.8 REFERENCE DATA

A candidate should understand what the phrase “Reference Data” means in common usage within the industry.

A candidate should understand of, and know the key differences between:

- Instrument Reference Data
- Counterparty Reference Data

A candidate should understand the meaning, origination (history) and context of the following:

- Securities Master File
- Enterprise Data Management (EDM)
- Golden Copy
- Securities Identifier
 - What is a securities identifier
 - What are CUISIP, ISIN, VALOREN and SEDOL numbers
 - What are numbering agencies e.g. ANNA (Association of National Numbering Agencies)
- A candidate should understand what is meant by :
 - security instrument “terms & conditions”
 - financial instrument prospectus – what is the basic data found there
 - A data model (both in terms of Physical and Logical)
- With respect to Counterparty Data a candidate should understand:
 - Corporate Hierarchies
 - What is the “ultimate parent”
 - The relationship between Issue and Issuer
 - The broad concept of KYC (Know Your Client)

- A candidate should understand what “Corporate Actions” are
 - What are the different kinds
 - Who are the main providers

2.3 STANDARDS

A candidate should understand the broad concepts of standards.

- What is ISO
- What is SWIFT

2.4 DELIVERY AND DISPLAY

A candidate must understand the way that data is delivered to both organizations and individual users. (*Nb. this will be covered in more detail under the Technology section*).

2.4.1 TERMINALS/WORKSTATIONS

A candidate should have a broad understanding of the main functionality of display workstations:

- How price data is displayed
- How news is displayed
- How are charts presented
- How is additional functionality provided e.g. Excel

2.4.2 DATAFEEDS

A candidate must understand broadly what datafeeds are and how they differ from terminal only solutions.

2.4.3 DATABASES

A candidate should understand what types of data are accessed through a database as opposed to a datafeed.

2.5 VENDORS (PROVIDERS)

A candidate should be very familiar with the major global vendors and also have a broad understanding of the range of smaller and more niche vendors.

For the primary vendors listed below, a candidate should have a broad understanding of:

- The range of services provided and core competencies
- Their methods of delivery and display
- Their broad history
- Their broad organizational structure
- Their broad approach to commercials e.g. pricing and contracts
 - Thomson Reuters
 - Bloomberg
 - Interactive Data
 - Six Telekurs
 - Standard & Poors
 - Dow Jones
 - Factset
 - Markit

2.5.1 EXCHANGES AND MTF/ATS AND IDB

A candidate should understand the role that Exchanges, MTFs/ATSs and IDBs play in generating, distributing and marketing data and the types of data are generated.

2.5.2 REGIONAL NICHE VENDORS

A candidate should have a broad understanding of vendors that provide regional or country specific services. They will not be expected to be aware of every obscure local provider but they must demonstrate a good understanding of this part of the market and the role it plays

2.5.3 SPECIALIST NICHE VENDORS

A candidate should have a broad understanding of vendors that provide specific services focused on a narrow area of specialism. They will not be expected to be aware of every obscure specialist provider but they must demonstrate a good understanding of this part of the market and the role it plays.

2.6 USES OF DATA

2.6.1 INDIVIDUAL USERS

A candidate must be able to broadly understand the different uses that individuals make of data depending on asset class and job function

2.6.2 LOCAL APPLICATIONS

A candidate must broadly understand how data is sometimes used within local applications for example within Microsoft Excel or within bespoke software created for a specific user.

2.6.3 CENTRAL (SHARED) APPLICATIONS

A candidate must broadly understand how data is used within central applications which are often shared by many individuals.

2.7 COMMERCIALS (PRICING AND CONTRACTUAL TERMS)

A candidate should have a broad grasp of commercial issues including:

- Enterprise deals
- Volume discounts
- Price benchmarking
- Global (i.e. cross border) deals
- Alternative pricing models e.g. AUM based

2.7.1 UNITS OF COUNT

A candidate should understand the meaning of, and the differences between, pricing based on “units of count”:

- *Per* - User, User ID, Application, Application Instance, Machine
- The relevance of MISU(Multiple Instance Single User) in this context

2.7.2 DATAFEED PRICING MODELS

A candidate should understand how pricing for datafeeds can be constructed.

- Per site charges
- Application charges
- “watchlist” or “cache

A candidate should understand how typical commercial contracts are constructed, for example Thomson Reuters “Business Principles”.

2.7.3 CONTRACTS, COMPLIANCE AND AUDITS

A candidate should understand contract concepts such as cancellations dates, rollover dates, and notice periods and the broad concepts of compliance and how and why data audits take place.

2.7.4 INVENTORY MANAGEMENT, PERMISSIONING, USAGE REPORTING - AND ASSOCIATED TOOLS

A candidate should understand the broad principles of how to set up and maintain an Inventory Management System for Market and Reference Data. Candidates should be familiar with the main product solutions: FITS, Infomatch and MDM.

A candidate should broadly understand the concept and the process of Permissioning/Entitlements including familiarity with Thomson Reuters DACS and this should include familiarity with process such as Thomson Reuters Data Access Declaration (DAD) Form.

A candidate should be familiar with how usage reports can be generated through DACS or more specialist products like NYSE Technologies DART.

3 THE TECHNOLOGY

A candidate should have a broad understanding of the various technologies that are deployed in association with market and reference data and how they are used. While a candidate from a non technical background is not expected to know all of the following in any kind of detail. They are expected to recognize the phrases and understand very broad concepts and the overall context where such things are relevant.

3.1 TECHNOLOGY BASICS & TERMINOLOGY

A candidate should be able to understand what the following basic technology elements are and their relevance in the world of market and reference data:

3.1.1 HARDWARE

- What is Hardware
 - Processor
 - Memory
 - Storage (Disk, Tape, USB/Memory Stick, SAN)
 - NIC (Network Interface Card)
 - KVM (keyboard, video and mouse) switches

3.1.2 OPERATING SYSTEMS

- What is an operating system
 - Windows NT, XP and Vista
 - Unix, Linux
 - Mac (Apple)

3.1.3 APPLICATIONS

- Spreadsheet (incl. MS Excel, Functions, DDE, RTD, Macros, VBA)
- Databases (Incl. SQL and Database Queries)
- Custom applications (in-house, vendor)
- Browser, messaging, email

3.1.4 SOFTWARE / APPLICATION DEVELOPMENT

- What is software / firmware
- Programming Languages (C, C#, .NET, Java)
- Scripting (Perl)
- API
- FPGA and hardware acceleration

3.1.5 GENERAL COMPUTING TERMINOLOGY

- The Internet (the world wide web)
- Web 2.0
- Distributed computing
- Grid computing
- Isolation Domains
- Cloud Computing

3.1.6 CONNECTIVITY

- Networks (LAN, WAN, MAN)
- TCP/IP (IP Address, Subnet, V-lan)
- Unicast (Point to point), Multicast, Broadcast
- Transmission medium (copper, fibre optics, satellite)
- Network / Comms hardware (hubs, Switches, routers, modems, firewalls)
- Telco providers
- Leased Lines (Private wires), VPN, Internet, Extranet (BT Radianz, SFTI, Atrium)
- Metro Ethernets (MPLS)
- Middleware
- Bandwidth, Throughput (Bits & Bytes)
- Hosting, Data Centre, Co-Location, Managed Service

3.1.7 STABILITY

- Resilience, Fail-over (different technologies used)
- Latency
- Scalability
- Message Rates

3.2 DATAFEEDS

A candidate should be able to understand what is meant by a datafeed:

- How a datafeed is typically delivered to a client
- What an “aggregated” datafeed is
- What a “direct” datafeed is
- How are datafeeds processed
- What is a broadcast (Full Cache) datafeed
- What is a selective cache/interactive datafeed
- Connectivity (e.g. Serial RS232C, IP/network based)

A candidate should have a general understanding of the following terminologies as they relate to data feeds:

- Throttling, pulsed, intervalised
- Snapped, streaming, delayed, real-time, EOD
- push/pull technologies
- Pub/Sub mechanisms
- Logicised records, paginated data, ANSI page based
- Protocols (FIX, FAST, ITCH, RV, RRCP, SASS2, XML, SOAP, HTTP)

A candidate should have an appreciation of the strengths and weaknesses of various types of data feed offerings and the effort required to implement new or to migrate between feeds

A candidate should have a robust understanding of the major datafeed offerings in the market:

3.2.1 AGGREGATED:

- Thomson Reuters – RDF, RDF Plus
- Interactive Data – PlusFeed
- Bloomberg – B-Pipe and B-Pod
- Six Telekurs – MDF
- Activ Financial

3.2.2 DIRECT:

- Direct exchange feed offerings eg
 - NYSE Euronext – OpenBook & WEP, Deutsche Borse – CEF, LSE – Infolect, NasdaqOMX – TotalView)
- ECN/MTFs (e.g. BATS, Turquoise, Arca)
- Broker feeds (e.g. Tullet’s SURF)
- FX (e.g. EBS Live, Reuters Autoquote)

3.2.3 HYBRID OR CO LOCATED OR HOSTED SOLUTIONS:

- Thomson Reuters – Reuters hosting
- Interactive Data – DirectPlus
- Fixnetix
- OptionsIT
- BT Proximity
- Activ Financial

3.3 DATA DISTRIBUTION – SYSTEMS AND SOFTWARE

A candidate should understand how data is distributed both between the provider and the client site but also within and around the client site. They should understand the basics of market data distribution systems

- What is a market data distribution system

3.3.1 UNDERSTAND DIFFERENCES BETWEEN TYPES OF MDDS AND PROVIDERS

- RMDS, Triarch, TIB, Wombat Data Fabric, ActivMiddleware, Tervela, IBM Infodyne, Exegy
- Application permissioning and User Entitlements (e.g. DACS)
- Core components of MDDS systems (feed handler, cache, distributor, wan gateway)
- A candidate should understand the different types of market data consumers and the respective ‘quality of service’ required, e.g. Desktop display apps, Algo applications, tick capture engines.

3.3.2 NON REAL TIME SPACE

- A candidate should understand services like IBM MQ

3.4 DESKTOPS (E.G.TERMINALS)

3.4.1 WORKSTATIONS

A candidate should understand the basics of desktop workstations

- The difference between a “terminal” and an intelligent workstation
- The role of Microsoft Windows, DDE and RTD
- How market data applications connect and communicate with the server
- The difference between fat and thin client technology including:
 - Citrix
 - Windows RDP
 - Browser
 - Active X
 - Java

A candidate should have a basic understanding of the key workstation offerings in the market:

- The Bloomberg Professional
- Thomson Reuters – 3000Xtra (including Kobra and PowerPlus Pro)
- Thomson Reuters – Thomson One
- Six Telekurs - iD
- Factset - Marquee

A candidate should have a broad understanding of mobile/handheld devices and how data can be distributed and displayed to such devices.

3.4.2 INSTANT MESSAGING

Instant Messaging has become part of the product offering of many market data vendors. A candidate should understand the concepts of IM and the key providers to the financial community; Also the compliance obligations for storage and retrieval of IM transcripts; e.g. Bloomberg, Reuters Messaging, Microsoft, Yahoo, Google etc

3.4.3 TRANSACTION PRODUCTS

In addition to providing core market data, many market data vendors have expanded into the transaction product space and support and ownership of these products often fall under the market data groups’ responsibility. A candidate should have a good understanding of this area and products that are provided, such as Dealing3000, Fidessa, Ion, EBS, Bloomberg Trading etc and the overlap with core market data

3.5 APPLICATIONS AND ASSOCIATED TECHNOLOGY

3.5.1 APPLICATION TYPES

A candidate should understand how and why applications are deployed to either add value to market and reference data, or to consume it as part of a wider functionality.

- Charting and Technical Analysis
- Various mathematical functions
- Algorithmic Trading
- Risk Management
- Trading Systems
- OMS & EMS
- Smart Order Routing
- Pricing Systems

3.5.2 ALGORITHMIC TRADING

Specifically for algorithmic trading, a candidate should understand the market data technologies currently in play, who the major vendors are, what are their key challenges, including their recent history and reason for being.

- Low latency feed and distribution systems including Wombatfs (now NYX), Activ Financial, IBM (Infodyne), Thomson Reuters, Exegy, Celoxica, Tervela.
- Messaging systems (29West LBM, IBM LLM, RTI, Tibco RV)
- What is Complex Event Processing (e.g. Streambase, Aleri) what is its relevance
- Reasons for tick capture systems (e.g. Vahyu, Kx KDB)
- Reasons for Latency Metrics and existing technologies (e.g. Corvil, Correlex, TipOff)
- Benefits and challenges of co-location

3.5.3 PRICE CONTRIBUTIONS

A candidate should understand the concept of price contributions, methods and core components:

- Spreadsheet publishing
- Multi-vendor contribution systems (e.g. Arcotech, Thomson Reuters - Gissing)
- Thomson Reuters MarketLink (MLIP), Bloomberg MPF, DDS DTS

3.6 DEVELOPMENT, IMPLEMENTATION, MANAGEMENT AND SUPPORT

A candidate should have a broad understanding of how applications and Systems are developed, deployed and subsequently maintained.

3.6.1 SYSTEM DEVELOPMENT

- Basic understanding of programming languages and terminology (code, run-time, API, UAT, version control etc.)
- Development environments (Dev, QA, Production)
- Handling Data (data integrity, support of entitlements and usage tracking, implications of derived data and redistribution)
- Importance of test environments

3.6.2 IMPLEMENTATION

- How are systems tested and deployed
- What techniques are used to package software for mass deployment
- Software compatibility issues and resolution
- Importance of change management processes
- The role of “Project Management”

3.6.3 SUPPORT

- Importance of Incident and Problem management within market data
- Need for capacity management as it relates to market data
- Understand client base and impact of systems failure (availability management)
- Impact of systems recover to end users and applications
- System monitoring and alerting (Hawk, ITRS, Netcool, SNMP)
- System Checks / RFB

3.7 ENTERPRISE AND REFERENCE DATA MANAGEMENT

A candidate should understand how data is distributed both between the provider and the client site but also within and around the client site. A candidate should understand the importance of 'Enterprise Data Management' and hence the technologies required to support it. They should also understand the interdependencies between reference data and price data.

3.7.1 BASICS OF BACK OFFICE DATA DISTRIBUTION SYSTEMS

A candidate should understand the basics of back office data distribution systems

- What is a reference data distribution system? Bloomberg Data License; Interactive Data FTS/SIRS; Reuters Datascope; Telekurs VDF
- Understand how files are transferred via FTP, Push/Pull, Secure FTP, automated FTP extraction delivery

3.7.2 TYPES OF INFORMATION FILES

- Understand differences between types of information files – reference data; pricing, corporate actions supplied and the range and types of instruments which can be accessed.

3.7.3 SOLUTION PROVIDERS

A candidate should be aware of role played and solutions provided by:

- Asset Control
- IBM
- Eagle Systems
- Goldensource
- AIM Software
- CADIS

Where is reference data sourced and who are the significant vendors (Thomson Reuters, Bloomberg, Interactive Data, SIX Telekurs, EDI)

3.8 KEY GENERAL TECHNOLOGY PROVIDERS

Candidates should understand who some of the key technology providers are:

- Microsoft
- Sybase
- HP
- IBM
- Cisco
- Oracle(Sun)

4 INDUSTRY ISSUES AND TRENDS

This part of the syllabus will be the most fluid and hence will be updated on a regular basis. A candidate must demonstrate they have a robust grasp of some of the key issues and associated trends that are influencing the development and evolution of the market and reference data industry.

4.1 MARKET REGULATION AND MARKET STRUCTURE

A candidate should demonstrate a broad understanding of how market structures are changing and why. They should have a robust high level appreciation of key government regulations and their impact on the market and reference data industry.

4.1.1 THE US MARKETS, THE FED AND THE SEC

A candidate should have a broad understanding of how the US Securities and Exchange Commission regulate the US equities markets with special attention to how this impacts market data. They should understand the key elements of the recent SEC Regulation NMS (National Market System) but with particular focus on how this affects market data and they should understand how the US markets have changed in recent years, including:

- The role of ECNs and ATNs over recent years
- The spate of mergers and acquisitions amongst the major exchanges
- The role of 'Dark Pools'
- The general concept of "Best Execution"

4.1.2 THE EUROPEAN UNION AND MIFID

A candidate should understand the recent changes in EU regulation such as MIFID and KYC and they should understand the broad implication that MIFID has for Market Data furthermore they should understand the changing face of the European Equities Markets including:

- The impact on 'National' Exchanges
- The role of Multilateral Trading Facilities
- The impact and consequences of market fragmentation
- The general concept of "Best Execution"

4.1.3 THE CONCEPT OF A 'CONSOLIDATED TAPE'

A candidate should understand the debate surrounding the concept of a "Consolidated Tape" for exchange traded equities.

- How is this implemented in the US equity markets
- How and why is this an issue for discussion in European Equities markets

4.2 AUTOMATION IN THE FINANCIAL MARKETS

A candidate should understand how market 'automation' has evolved in recent years and specifically how that automation has impacted market data. They should also have a broad understanding of:

- Algorithmic trading
- Automated execution services including DMA (Direct Market Access)
- Data and trade entry latency
- Data traffic and update rates
- High frequency trading
- Proximity hosting
- Machine readable news

4.3 ENTERPRISE DATA MANAGEMENT

A candidate should have a broad understanding of the concept and scope of "EDM" and the broad debates surrounding the creation of robust and comprehensive Enterprise Data Management.

4.4 COMMERCIAL, CONTRACTUAL, ECONOMIC AND POLITICAL

A candidate must be able to demonstrate a broad understanding of some of the key and recent debates surround market and reference data, including:

- The debate on what is the optimum "unit of count" for data contracts
- The debate on intellectual property rights (*ownership*) for data, including redistribution of data and derived data.
- The problems of "Data Piracy"
- The contentious issue of data 'Audits'

A candidate should be able to demonstrate a broad grasp of some of the macro economic factors affecting our industry, including:

- The origins and impacts of the "Credit Crisis/Crunch"
- The 'Sub Prime' mortgage market
- Interbank lending rates e.g. Libor
- Hedge Funds – in general

5 SUBJECT MATTER EXPERTS

This syllabus was compiled with the valuable help of the following Subject Matter Experts:

- Ludwig D'Angelo JP Morgan
- Ed Flynn Fidelity
- Richard Jacobi Bloomberg
- Arshad Alibhai Alliance Bernstein
- John White State Street Global Advisors

- Rob Plutchok Citi
- David Berry UBS
- Julia Sutton Citi
- Bill Lee Morgan Stanley
- John Bottega Fed Reserve Bank of NY

- Terry Roche Thomson Reuters
- Sean Keeler Deutsche Bank
- Richard Weston *formerly* - KBC
- Peter Sharp *formerly* - Morgan Stanley
- David Gordon independent consultant
- Paul Kennedy Interactive Data

- Rafah Hanna EuroMTS
- Andre Kelekis BNP
- Michael McCrea TMX
- Andrew McLean Interactive Data

- Steve Allen *formerly* -Bank of America
- Ian Williams Credit Suisse
- Tristan Dehaan Robeco
- Alex Karg West LB

6 FOR MORE DETAILS PLEASE CONTACT

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