



8-12 Questions

**Answer to the question on the previous slide:**

A: Hold shorter term assets



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## 2. The Role of the Securities Markets

### Real assets vs. financial assets

- Real assets
  - Typically tangible
    - Land, buildings, machines, etc.
  - Can be knowledge used to produce goods and services
- Financial assets
  - A legal claim on future financial benefits
  - A security
    - Shares, bonds, units in a CIS, etc.

## Further information

### Financial Asset classes

#### Shares

- Ordinary – variable dividend and voting rights
- Preference – fixed dividend and no voting rights

#### Debt instruments

Bonds – longer-term, pay coupons

Bills – short-term, issued at a discount and redeemed at par

#### Derivatives

Futures – an agreement to buy or sell an asset

Options – a right to buy or sell an asset

Units in collective investment schemes – represents beneficial rights to returns from a portfolio

Foreign exchange – Over-the-counter market

Continuous linked settlement offers payment versus payment protection



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## 2. The Role of the Securities Markets

### Liquidity and transparency

- Liquidity
  - Central market place
  - Real-time price and volume information
  - Regulated participants
  - Standardised contracts for derivatives
  - Risk management through clearing and settlement systems
- Transparency
  - MiFID pre-trade disclosure
  - Exchanges and MTFs display current prices and trading volumes
  - MiFID post-trade disclosure
  - All firms completed transactions as soon as possible

## Further information

### Impact of asset class on liquidity and transparency

Where liquidity is compromised, price discovery is less efficient. Liquidity can be reduced by:

- Entry price of asset becomes unattractive
  - Very high
  - Very low
- Asset becomes unpopular
  - Company fundamentals
  - Poor reputation
  - Unfashionable

Where price discovery is low, liquidity can be compromised. Price discovery can be poor where:

- There is no centralised market place
- There is no price transparency
- There is little regulatory protection



## 2. The Role of the Securities Markets

### Dealing costs

- Purchase costs
  - Spread between bid/offer (market maker's profit)
  - Broker's commission
  - Stamp duty/SDRT 0.5% – if via CREST rounded to nearest 1p, if paper based round **up** to nearest £5
  - Panel on Takeovers and Mergers levy – flat £1 on sales/purchases over £10k

### Purchase example:

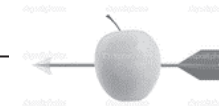
£20,000 in shares	=	£20,000
Commission 1.5%	=	£300
Stamp duty 0.5%	=	£100
PTM levy £1	=	<u>£1</u>
	=	£20,401

### Sale example:

£30,000 sold	=	£30,000
Commission	=	£450
PTM levy	=	<u>£1</u>
	=	£29,549

## Keeping on target

An investor buys 10,000 shares at £0.90 each via his broker and holds them for 18 months, during which time dividends are received every six months of 2p, 4p and 3p respectively. The shares are then sold for £1.37 each. If the broker's fee for each trade is £11, what profit does the investor make after considering these fees and the PTM levy and stamp duty?



### 3. Trading Securities in the UK

#### Introduction

- Marketplace where company securities, domestic and international, are traded

#### LSE: The different parties trading

- On the London Stock Exchange only members may deal:
  - Broker dealer: 'dual capacity'
    - Deal as principal
    - Deal as agent
  - Market-maker
  - Local
  - Stock borrowing and lending intermediary (SBLI)
  - Inter-dealer broker (IDB)

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#### Answer to the question on the previous slide:

##### Step 1 – total cost

Cost of shares: 10,000 shares x £0.90 = £9,000

Plus SDRT: £9,000 x 0.005 = £45

Plus fees: = £11

Total cost = £9,056

##### Step 2 – total proceeds

Proceeds from sale: 10,000 shares x £1.37 = £13,700

Plus dividends: 10,000 shares x (2p + 4p + 3p) = £900

Minus fees: = £11

Minus PTM levy: = £1

Total proceeds: = £14,588

##### Step 3 – investor's profit

£14,588 - £9,056 = £5,532

### Further information

Summary of systems for UK securities

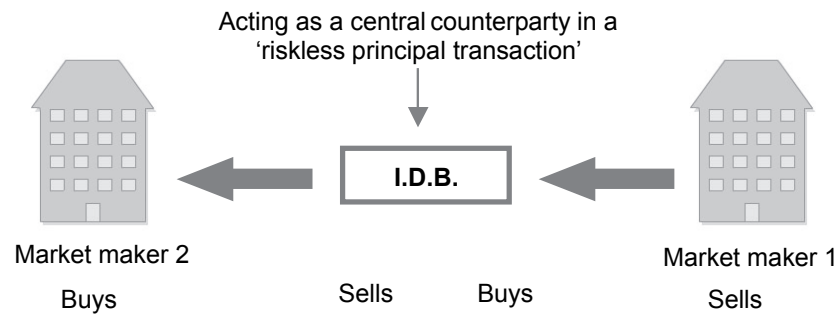
Name of system	Function
<b>Trading systems</b>	
<b>SETS</b>	Continuous order book execution system for FTSE All Share index and most liquid AIM and Irish shares
<b>SETSqx</b>	Hybrid system. Periodic order book execution with market maker support for most other UK shares.
<b>SEAQ</b>	Quote driven system for any shares too illiquid for SETS or SETSqx as well as corporate bonds
<b>International Order Book (IOB)</b>	Order driven system for international depositary receipts
<b>European Quoting Service</b>	Quote driven system for European listed securities
<b>Order book for Retail Bonds (ORB)</b>	Retail focused order book trading for gilts, supranational bonds and corporate bonds
<b>International Board</b>	Facilitates reciprocal trading arrangements between LSE and other exchanges. Currently only the Singapore Stock Exchange has joined.
<b>Other systems</b>	
<b>European Trade Reporting</b>	Enables members to meet their post-trading obligations
<b>LCH.Clearnet</b>	Central counterparty to all trades executed on the SETS order book. Manages default risk on behalf of members.
<b>CREST</b>	Settlement system for UK and Irish securities. Owned by Euroclear UK and Ireland



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### 3. Trading Securities in the UK

#### IDBs: operation



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### 3. Trading Securities in the UK

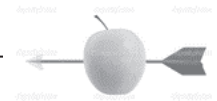
#### Order vs. quote-driven

- Quote-driven
  - Price makers
  - Bid/Offer spreads
  - Screen- and phone-based
- Order-driven
  - Negotiated prices
  - Open outcry
  - Electronic trading
- Hybrid systems
  - Order books with market maker support

### Keeping on target

Which of the following is a feature of a quote driven market?

- A: Electronic matching of buyers and sellers
- B: Mainly single prices being quoted
- C: Face to face trading within a dealing pit
- D: Firms making two way prices





### 3. Trading Securities in the UK

#### Order book example: SETS

Tesco	TSCO	Currency GBX
NMS 50 000		
Prev 210 209 211 210 210		
SETS Volume 3.41m		
Total Volume 10.2m		
BUY	Total Volume 22,000	Total Volume 22,000 SELL
<b>5,000</b>	<b>210 - 214</b>	<b>3,000</b>
	5,000 210	214 3,000
	1,000 209	215 5,000
	11,000 208	216 7,000
	3,000 207	217 6,000
	2,000 206	218 1,000

### Further information

#### Trading on SETS

- FTSE All-share index
- More liquid AIM shares
- Some euro denominated Irish securities



### Keeping on target

Using the image of the SETS screen opposite.

What would be the new touch if a sell order for 6,000 shares at a limit of no less than 210 is entered into the order system?



**Answer to the question on the previous slide:**

D: Firms making two way prices

### 3. Trading Securities in the UK

#### Continuous order book trading

- Limit order
  - Anonymous
  - Named

**Example**

Tesco	TSCO	Currency GBX
<b>5,000</b>	<b>210 - 214</b>	<b>3,000</b>
5,000	210	214 3,000
1,000	209	215 5,000
11,000	208	216 7,000
3,000	207	217 6,000
2,000	206	218 1,000

**LIMIT ORDER:**  
Sell 6,000 at 210 limit

NB: The touch price now reflects the new offer at 210

Tesco	TSCO	Currency GBX
<b>1,000</b>	<b>209 - 210</b>	<b>1,000</b>
1,000	209	210 1,000
11,000	208	214 3,000
3,000	207	215 5,000
2,000	206	216 7,000
	217	6,000
	218	1,000

**Answer to the question on the previous slide:**  
See slide image

### 3. Trading Securities in the UK

#### Continuous order book trading

- At best order ('market order')

**Example**

Tesco	TSCO	Currency GBX
<b>11,000</b>	<b>208 - 210</b>	<b>1,000</b>
11,000	208	210 1,000
3,000	207	214 3,000
2,000	206	215 5,000
		216 7,000
		217 6,000
		218 1,000

AT BEST:  
Buy 8,000 at best

Tesco	TSCO	Currency GBX
<b>11,000</b>	<b>208 - 215</b>	<b>1,000</b>
11,000	208	215 1,000
3,000	207	216 7,000
2,000	206	217 6,000
		218 1,000

### 3. Trading Securities in the UK

#### Quote-driven example: SEAQ

<b>ABC ORD 5</b>		<b>ABC</b>		Currency GBX	
NMS 5 000				CREST	
Last 103					
Prev 101.5M 106 105 105.5X					
Volume 340 000					
<b>1</b>	<b>GH</b>	<b>101 – 104</b>	<b>EF JK</b>	<b>2</b>	
AB	100 – 105 5 X 5 08.50	GH	101 – 106 5 X 5 08.37		
DC	100 – 105 10 X 10 08.44	JK	99 – 104 10 X 10 08.44		
EF	99 – 104 5 X 5 08.26				

- Market-makers
  - Mandatory quote period (MQP)
  - Minimum volume quote
    - 1 x normal market size (NMS)
  - Manual reporting to exchange

### Hints

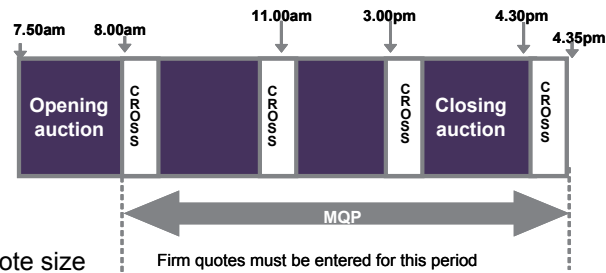
Off order book trades are reported through the LSEs European Trade Reporting Service within three minutes.



### 3. Trading Securities in the UK

#### Hybrid system example: SETSqx

- Hybrid system for domestic listed securities that are not listed on SETS.



- Minimum quote size
  - 1 x NMS
- Reporting market maker trades
  - Within three minutes
- No continuous order book trading
- Limit orders only

### 3. Trading Securities in the UK

	Purpose	Operator	Regulatory	Examples
<b>MTF</b>	Access to capital where there is no exchange or competition for existing exchanges	Investment firms and private organisations	Treated as an exchange. MiFID transparency applies	Chi-X Turquoise
<b>Dark pool</b>	Exchange-traded liquidity with OTC confidentiality Anonymous trading through hidden orders	Investment firms and private organisations	Considered OTC. MiFID transparency does not apply	Instinet Liquidnet Investments Firm's own pool
<b>Systematic internaliser</b>	Direct source of liquidity from investment firms that match orders with clients	Investment firms	Considered a mini-exchange. MiFID transparency applies	Any investment firm

### Further information

#### Algorithmic trading

The use of electronic platforms for entering trading orders with an algorithm deciding on aspects of the order

#### High-frequency trading (HFT)

A subset of algorithmic trading in which computers receive information and make decisions before human traders are capable of processing the information.

#### HFT strategies

- Market making – automatic trades on tight spreads
- Ticker tape trading – receiving market information at high speed and programming systems to react to this
- Event arbitrage – reacting to predictable short-term reaction to events
- Statistical arbitrage – systems are programmed to react to price discrepancies in assets



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## 4. Bond Markets

### UK government gilts

- Participants
  - Gilt-edged market makers (GEMMs)
  - Broker-dealers
  - Inter-dealer brokers (IDBs)
- Obligations of GEMMs
  - Registered with the Debt Management Office (DMO)
  - Quote to an order size during a mandatory quote period (MQP)
    - Clean price quoted to £0.0001
    - Dirty price paid (includes accrued interest)
  - Quotes firm to clients and broker-dealers acting as agent
  - Quotes not firm to other GEMMs and broker dealers acting as principal
  - Expected to participate in DMO auctions

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## 4. Bond Markets

### UK government gilts

- Primary markets
  - Government issues gilts to cover the public sector net cash requirement (PSNCR)
  - Managed by the DMO through auctions and taps
- Dealing and reporting: LSE
  - Quote driven
  - Trade reports within three minutes
- Other dealing methods
  - OTC e-trading systems
- Settlement
  - CREST
  - T + 1

## Further information

### *The Primary Market*

The government's agent issues gilts, which usually pay coupons semi-annually, to finance the public sector net cash requirement (PSNCR). The Debt Management Office (DMO), manages UK government's debt it is an agency of the Treasury. Approximately 15% of gilt issues are index-linked gilts (ILGs).

The DMO has issues gilts via an auction, and this is now the favoured method. Issuing gilts by auction is the method preferred in a number of other countries, most notably the US.

If bidders do not offer the price required by the DMO, that part of the issue not taken up originally can be temporarily withdrawn and released slowly into the market as market conditions become more favourable (Tap Issue).

### *Investors*

When calculating accrued interest over a period, it is based on an actual/actual basis. The actual number of days since the last coupon and the actual number of days in the coupon period are counted.

Gilts normally go ex-dividend seven business days before the coupon date.





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## 4. Bond Markets

### STRIPS market

- Gilts designated as strippable by the DMO
- Permitted parties:
  - GEMMS
  - HM Treasury
  - Bank of England
- A five-year strippable gilt may be stripped into 11 zero-coupon bonds

### Further information

The key benefits of STRIPS are that investors can precisely match their liabilities, removing any re-investment risk that is normally faced when covering liabilities with coupon-paying bonds.

The nature of the re-investment risk arises, because, in a volatile interest rate environment, the returns available at the time of receiving a coupon payment may not have the desired long-term yield to maturity characteristics required by an investor, such as a pension fund.

The term 'stripping' arises from the word STRIPS, which is an acronym of separate trading of registered interest and principal of securities.



## 4. Bond Markets

### Corporate bonds

- Primary market
  - Private placement
  - Bought deal
  - Fixed price reoffer
  - Underwriting
- Secondary markets
  - Mainly over-the-counter
  - Some on LSE SEAQ and ORB
- Settlement
  - T+2

## Further information

Equity	Bonds	Others
FOP cash T+1	Gilts T+1	Repo T+0
New issues T+1	US T-bonds T+1	FX forward > T+2
Certificated T+10	Certificated Gilts T + 10	

### *The Primary Market*

#### Private placing

When corporate bonds are sold directly to a small number of professional investors

#### Open offer

A syndicate of banks with one as lead manager buys the bonds and then resells them to investors. If the lead bank buys all the bonds and sells them to the syndicate this is called a **bought deal**. The syndicate members could then sell the bonds on at varying prices. More usually, the lead manager and the syndicate buy the bonds together and offer them at a fixed price for a certain period, a so-called **fixed price re-offering**.



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## 5. Derivatives Markets

### Exchange-traded

- Participants
  - Principal and agency
- Trading styles
  - Open outcry
    - Face-to-face trading
    - London Metals Exchange (LME)
    - New York Mercantile Exchange (NYMEX)
  - Order book
    - Liffe CONNECT
  - Central counterparty (CCP)
- Uses
  - Speculation – taking on risk
  - Hedging – reducing risk
  - Arbitrage – risk-free profit from price anomalies

### Further information

NYSE Liffe is the main derivatives market in the UK. The products trade on a system referred to as CONNECT. CONNECT is an order driven platform, very much like SETS.

This has recently been replaced by the NYSE system Universal Trading Platform (UTP). The UTP is tested for NYSE only on this syllabus and not NYSE Liffe.



## 5. Derivatives Markets

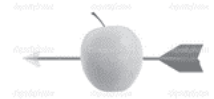
### Over-the-counter

	OTC	Traded on Exchange
<b>Contract terms</b>	<ul style="list-style-type: none"> <li>Bespoke: tailored to meet the needs of the investor</li> </ul>	<ul style="list-style-type: none"> <li>Contract specifications standardised by the exchange</li> </ul>
<b>Liquidity</b>	<ul style="list-style-type: none"> <li>Can be limited leading to slower execution</li> </ul>	<ul style="list-style-type: none"> <li>Excellent on major contracts</li> </ul>
<b>Margin</b>	<ul style="list-style-type: none"> <li>Normally no margin</li> </ul>	<ul style="list-style-type: none"> <li>Margin normally required</li> </ul>
<b>Regulation</b>	<ul style="list-style-type: none"> <li>Less stringent regulation of products</li> <li>More stringent restrictions on who may invest in them</li> </ul>	<ul style="list-style-type: none"> <li>Exchanges subject to significant regulation</li> </ul>
<b>Counterparty risk</b>	<ul style="list-style-type: none"> <li>Exposed to default risk</li> </ul>	<ul style="list-style-type: none"> <li>No member default risk due to clearing house</li> </ul>
<b>Reporting</b>	<ul style="list-style-type: none"> <li>Confidentiality</li> </ul>	<ul style="list-style-type: none"> <li>Market transparency</li> </ul>
<b>Price</b>	<ul style="list-style-type: none"> <li>Negotiated or 'request for quote' (RFQ)</li> </ul>	<ul style="list-style-type: none"> <li>Best execution</li> </ul>
<b>Hedging</b>	<ul style="list-style-type: none"> <li>Specific hedging requirements can be met</li> </ul>	<ul style="list-style-type: none"> <li>Hedges based on standardised contracts</li> <li>Need to be actively managed</li> </ul>

## Keeping on target

Which of the following is a benefit of OTC derivatives markets?

- A: Improved liquidity
- B: Higher volumes of trading
- C: Opportunity to construct better hedges
- D: Decreased counterparty risk



## Further information

The International Swaps and Derivatives Association is a professional body that monitors the OTC derivative market and produces standardised documentation to create legally binding contracts.



## 6. Settlement

### Settlement of securities

- Organising payment and delivery
  - Physical stock – stock transfer forms
  - Dematerialised – book entry transfer

### Euroclear UK and Ireland

- Central securities depository (CSDs)
- CREST
  - Operates delivery vs. payment for dematerialised securities
  - Calculates and collects stamp duty reserve tax (SDRT)
  - Standard settlement
    - T+2 for equity and corporate bonds
    - T+1 gilts
- CREST courier and sorting service (CCSS)

## Further information

Settlement for the UK market covers a wide range of corporate and government securities, including those traded on the London and Irish Stock Exchanges.

The CREST system also settles money market instruments and funds, plus a variety of international securities.

In the CREST environment, investors are able to hold their securities in dematerialised and certificated (paper) form.



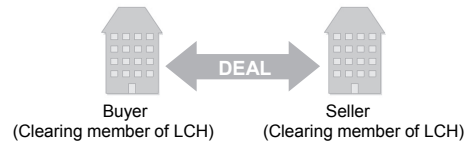
**Answer to question on previous slide**

C: opportunity to construct better hedges

## 6. Settlement

### LSEs central counterparty service

- Novation 1. Initial trade



- 2. Novation

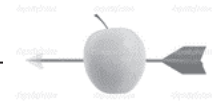


- Clearing house as registrar
  - Protects anonymity
  - Protects against default

## Keeping on target

A benefit of LSE's CCP service is:

- A: Reduced administration
- B: Disclosure of parties to the trade
- C: Reduced FX risk
- D: Increased credit risk



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## 6. Settlement

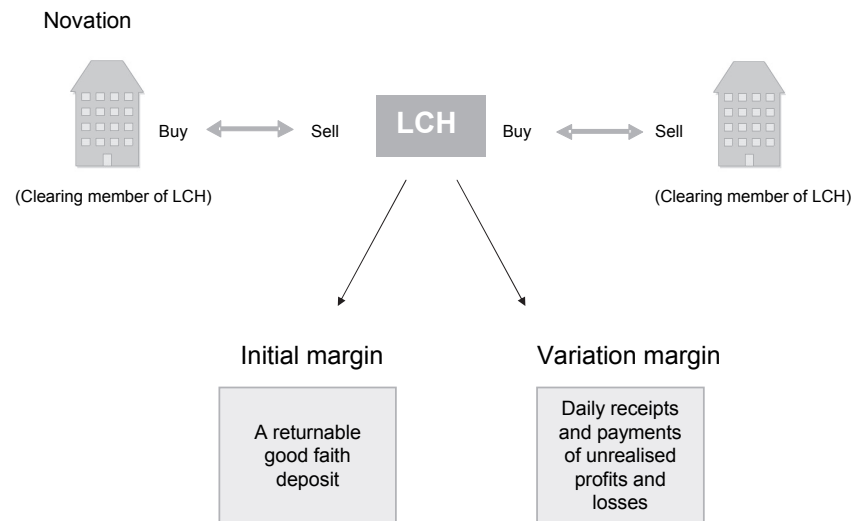
### Clearing derivative trades

- Clearing house as registrar
  - Facilitates closing out
- Counterparty risk
  - Contingent liability investments
- Clearing house as guarantor
  - Principal to principal
  - Manages credit exposure

**Answer to the question on the previous slide:**

A: Reduced administration

## 6. Settlement





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## 6. Settlement

### European market infrastructure regulation (EMIR)

Imposes three new requirements:

1. Clear certain OTC contracts through a central counterparty (CCP)
2. Ensure appropriate risk management measures are implemented where there is no CCP
3. To report OTC trades to a trade repository

### Further information

In the US, regulation of the derivatives market is the role of the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC).

Like EMIR in the EU, the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010 imposes tighter regulation on the OTC derivatives markets.



**Answer to the question on the previous slide:**

C: Opportunity to construct better hedges

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## 6. Settlement

### IAS 39 – financial instruments: recognition and measurement

- Derivatives and embedded derivatives recorded at fair value
- Any profit or loss (realised or unrealised) is reflected on the income statement
- Not derivatives used for hedging

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## 7. International Markets

### Eurobonds

- International bonds
  - Bearer documents
  - Euro currency
    - Any currency held outside its country of origin
  - Gross annual coupon
- International Capital Markets Association
- OTC market
  - Reporting T+1
- Settlement:
  - T+2
  - Euroclear and Clearstream
- Immobilisation
  - Documents typically held by an international central securities depository

## 7. International Markets

### Key differences between developed and emerging markets

	Regulatory and Supervisory environment	Structure and size of market	Liquidity and Transparency	Access and relative cost of trading
Developed	Formal market regulatory authorities.	High income economies. Size generally governed by Market Cap or/and number of companies.	Free and transparent markets.	Costs – implicit and explicit costs to be reasonable and competitive.
Emerging (much of Asia, Africa and South America)	Lax regulating – incidents of financial crime and fraud more common. Corporate Governance lacking.	Markets with Market Cap of less than 2% of world Market Cap.	Quality and transparency lower, standards not rigorously applied.	Inefficient pricing with abnormalities.

## Further information

### Europe

Regulations harmonised by directives

- France – Euronext
- Germany – Deutsche Borse

Markets accessible through LSE European Quoting System

### United States

Heavily regulated market

- New York Stock Exchange
  - Designated market makers
  - Universal Trading Platform
- National Association of Securities Dealers Automatic Quote System
- American Stock Exchange



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## 7. International Markets

### Settlement summary

Country/Region	Instruments Settled	Settlement Period	System Name
UK	Listed equities and corporate bonds	T+2	Euroclear UK and Ireland
	Government bonds (gilts)	T+1 (cash settlement)	Euroclear UK and Ireland
European Union	Listed German Equities	T+2	Clearstream
	International Bonds	T+2	Clearstream/ Euroclear
United states	Listed Equities	T+3	Depository Trust Clearing Corporation (DTCC)
	Government bonds	T+1	DTCC
Japan	Listed equities and convertible bonds	T+3	Japan Securities Depository Center (JASDEC)