

FESE Capital Markets Academy Introduction to Capital Markets

The Speakers and Moderator



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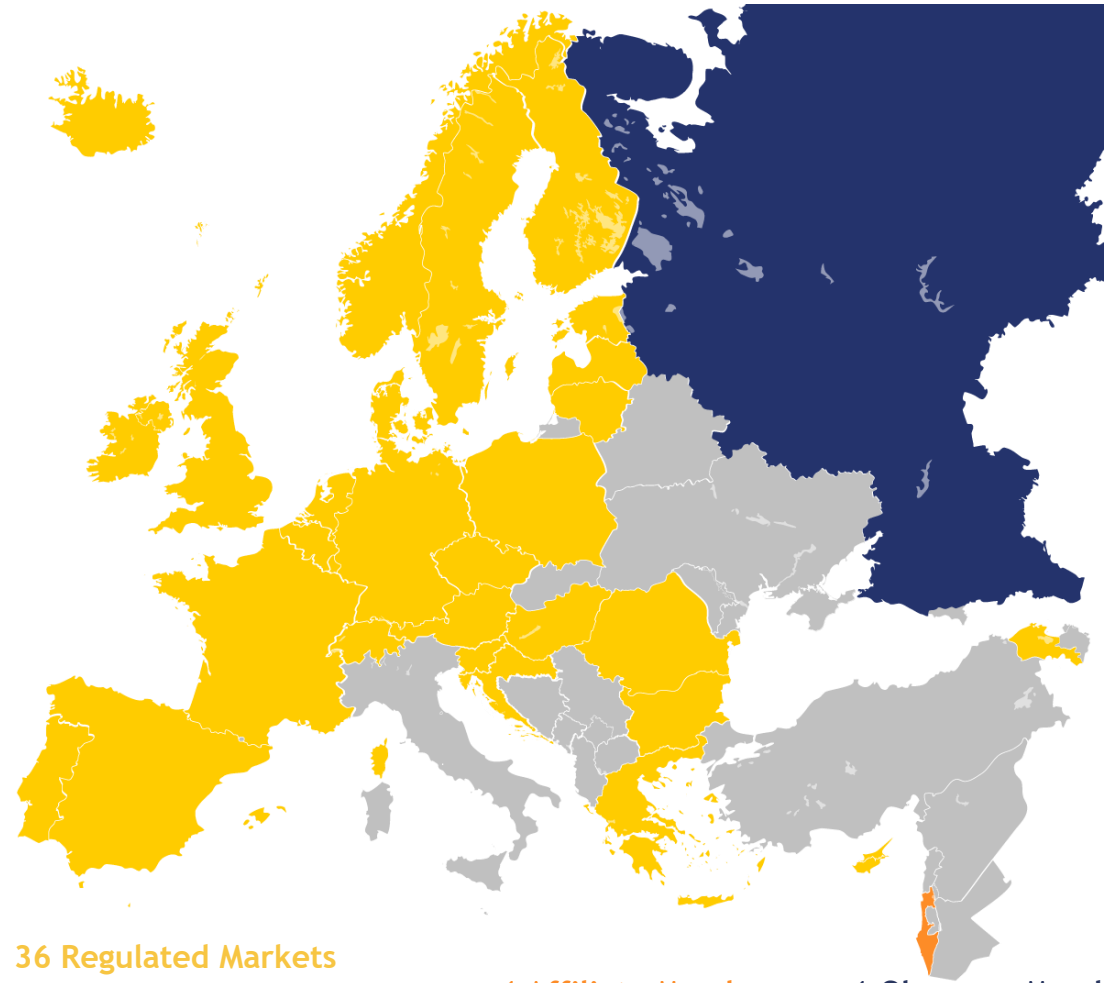
FESE - Federation of European Securities Exchanges

FESE represents **36 Exchanges** in equities, bonds and derivatives

13 Multilateral Trading Facilities (MTFs) dedicated to listing and trading of SMEs

From **EU member states** as well as **Iceland, Norway and Switzerland**

19 Full Members, **1 Affiliate Member** and **1 Observer Member**



36 Regulated Markets

13 MTFs dedicated to SMEs

1 Affiliate Member

1 Observer Member

Key figures: European financial markets



~11,000
Listed companies



~€13,000 bn
Market cap for
listed companies



~€32bn
Money raised at IPO



~€8.5 tn
Equity turnover



~€600 tn
Options and futures
notional turnover



~€6 tn
Bonds turnover

**Source: FESE and WFE, EOB turnover, 2018 data*

Key facts: Exchanges



Market venues where investors can **buy or sell** different financial instruments at prices they can trust and which they know in advance



Investors buy and sell financial instruments for several reasons: return on investment, diversification, protection against market fluctuations, etc.



Frequently traded instruments: shares, bonds, currencies, commodities and derivatives



Companies use financial instruments to finance themselves and to manage their risk

What is the role of an exchange?

1 Exchanges enable the financing and risk management of companies of all sizes via a wide range of instruments (equity, bonds and derivatives)

2. An exchange allows companies to raise funds by providing them with access to a pool of private and institutional investors

THE PRIMARY MARKET OF AN EXCHANGE:

= Market for new issues of securities where companies issue shares directly to shareholders

Enables issuers and companies to raise new capital

Brings companies and investors together

Facilitates the process of investors subscribing in shares (and other securities)

THE SECONDARY MARKET OF AN EXCHANGE:

= Market where previously issued shares are bought and sold

Provides a central market by matching supply and demand for listed instruments

Helps price formation and price dissemination

Creates trust and certainty

What you will learn today



1.

Trading: You will learn about different markets and products, about the market participants and how markets are organised and regulated

2.

Clearing: You will learn about the role of central counterparties in secure capital markets and how they link market participants

3.

Settlement and Custody: You will learn about the post-trade process for all securities transactions

All topics will be addressed from a functional as well as a policy perspective and there will be a focus on EU regulation

Index

1. Financial markets
2. Exchanges and trading facilities
3. Regulation
4. Clearing and Central Counterparties (CCP)
5. Settlement and Central Securities Depositories (CSD)

1 Financial Markets

Matthias Luck

Breaking down the jargon!

Definition of a financial market:

A financial market is any market on which financial instruments, such as stocks, bonds, currencies or derivatives are traded

The general task of the market is to balance supply and demand for financial products whilst creating efficient pricing of financial instruments

Definition of a financial centre:

A financial centre is a city/place with strategic location with leading financial institutions (such as a reputable stock exchange, public/private banks, trading and insurance companies)



Overview of a financial market

Foreign exchange market

The foreign exchange market is an over-the-counter (OTC) marketplace that determines the exchange rate for global currencies

Participants are able to buy, sell, exchange and speculate on currencies

Money market

Government and corporate entities use money markets as means for borrowing and lending in the short term, usually for assets being held for up to a year

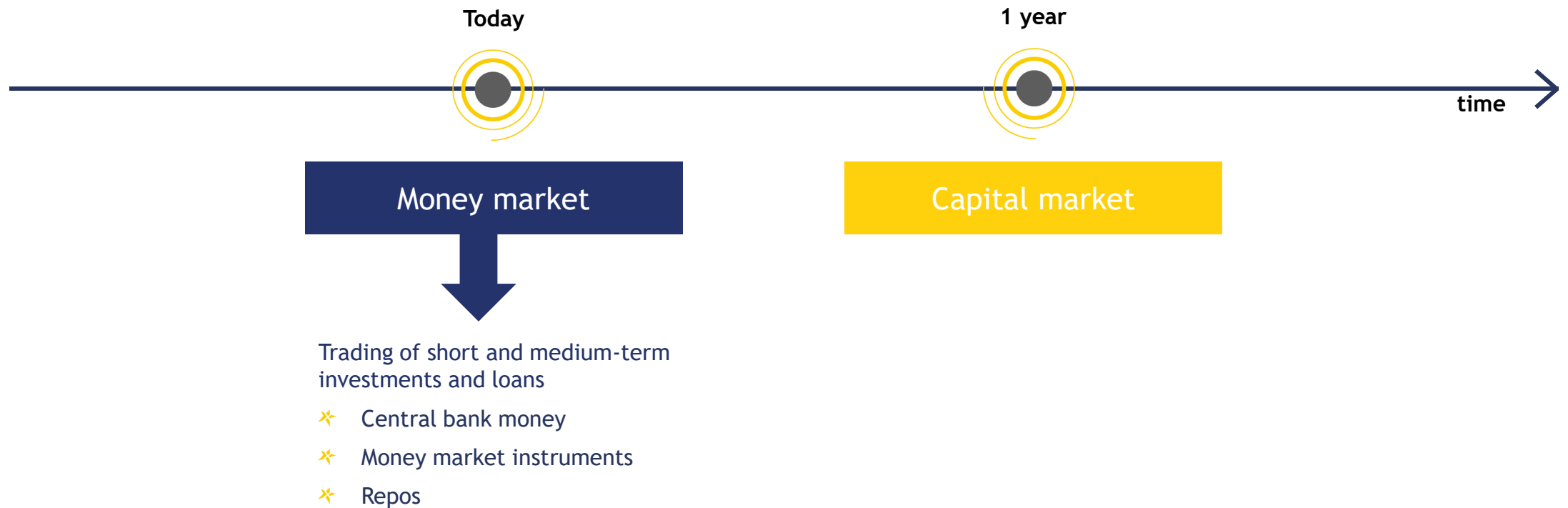
Capital market

A capital market is a financial market in which long-term debt or equity-backed securities are bought and sold

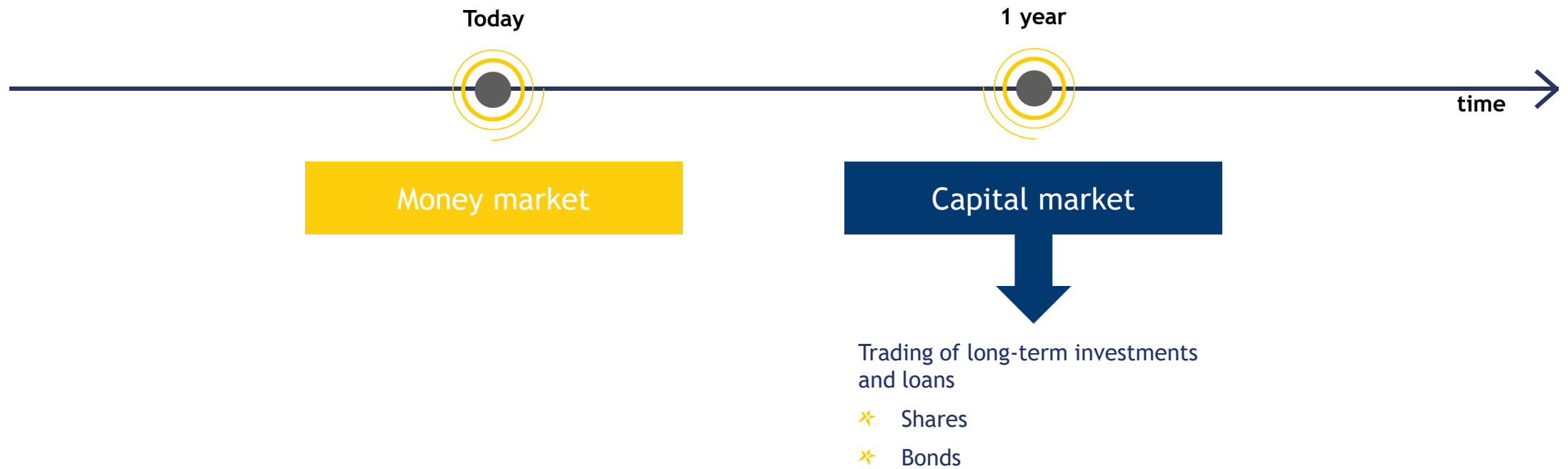
Capital markets are more frequently used for long-term assets - those with maturities of greater than one year

Capital markets channel the wealth of savers to those who can put it to long-term productive use, such as companies or governments making long-term investments

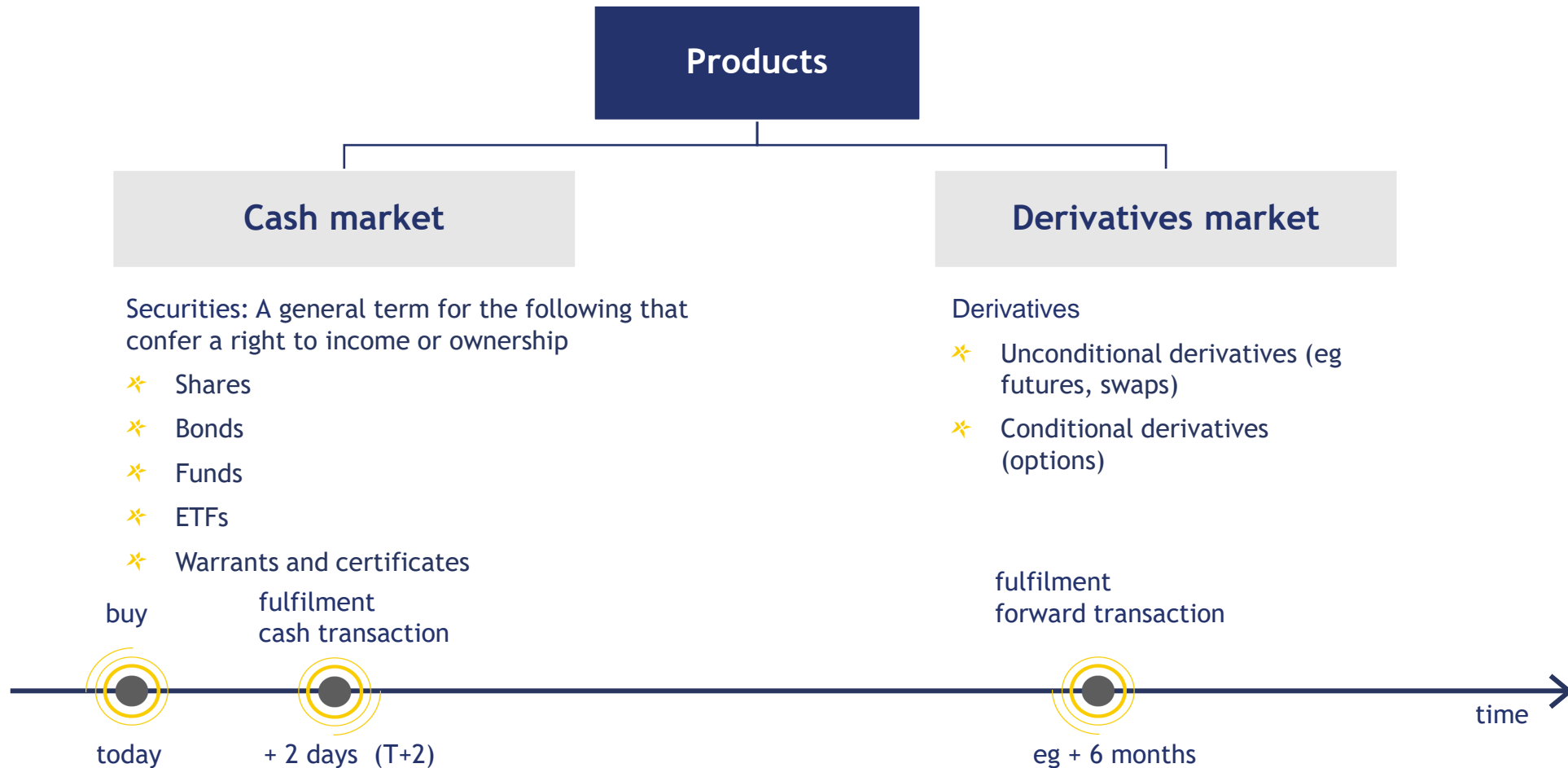
Classification of financial markets by maturity



Classification of financial markets by maturity



Cash and derivatives market



Cash markets: What are securities?

Securities are tradeable financial assets such as:

Shares

- ✦ A share is a security giving the investor partial ownership of a company

Which in turn provides the investor with:

- ✦ Securitised shareholder rights
- ✦ Profit-related dividend payments
- ✦ Voting rights



Bonds

- ✦ Bonds are issued by corporations and the public sector to obtain debt capital
- ✦ They are considered to be medium to long-term investments
- ✦ Guaranteed right to repayment, with interest at specific dates which can vary along a bond's lifecycle
- ✦ By type of interest:
 - ✦ Bonds with fixed interest rates
 - ✦ Bonds with variable interest rates (floaters)
 - ✦ Inflation-linked bonds (linkers)
 - ✦ Zero-coupon bonds
- ✦ Default risk depending on the issuer
- ✦ Usually lower price fluctuations than stocks

Derivatives markets: what are derivatives?

A derivative is a contract that derives its value from the performance of an underlying entity. This underlying entity can be an asset, index, or interest rate, and is often simply called the “underlying”.

Futures

A future is a standardised contract between two parties that undertake to purchase or deliver a specified quantity of an underlying asset at a specified price on a specified date.



Options

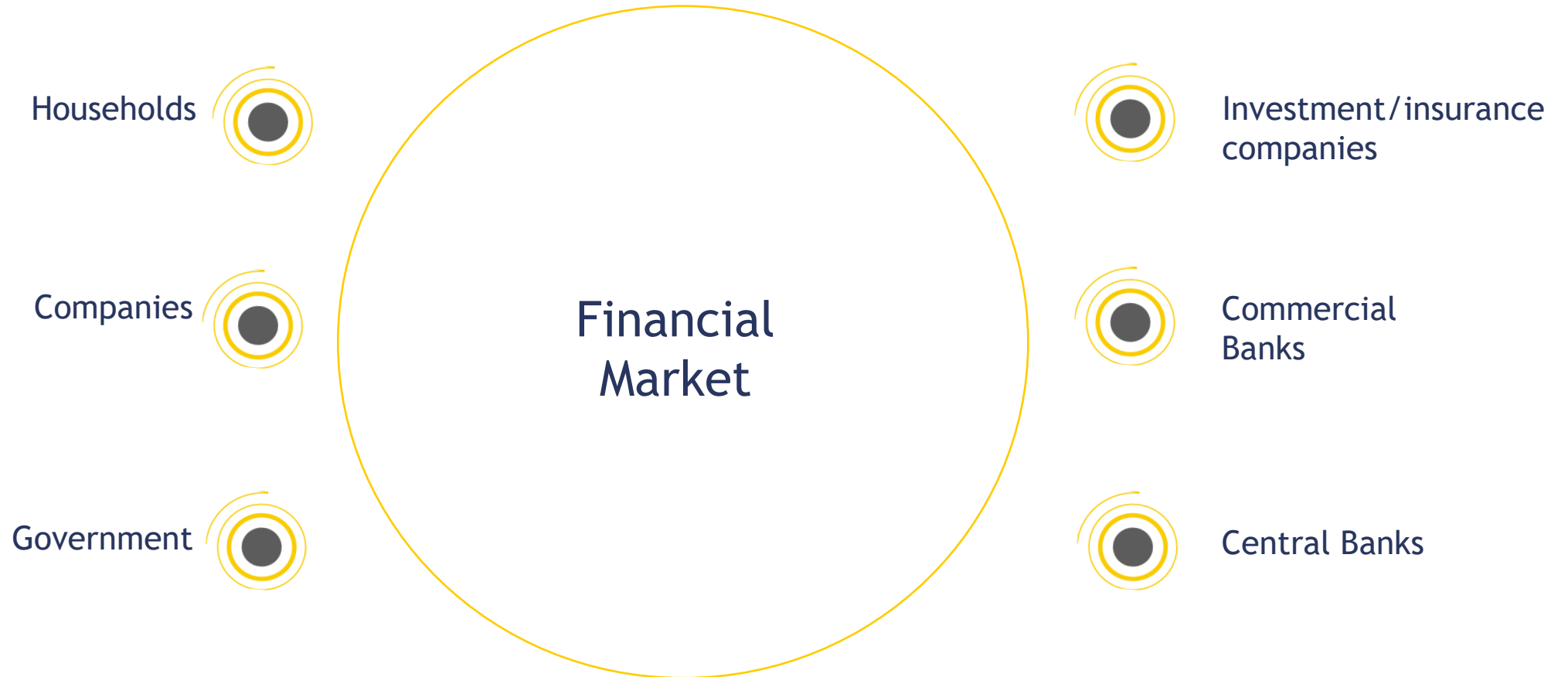
An option is a standardised contract between two parties. The buyer of an option acquires -- against payment of the option price (premium) -- the right to buy (call) or sell (put) a specified quantity of a specified financial product at a specified price on a specified date.



Further details on derivatives markets will be presented in Module 3 of this seminar series.

Who participates in these markets?

Market Participants include:



Classification of market participants / Providers of infrastructure solutions



Investors

- ✦ Retail
- ✦ Institutional



Intermediaries for market access

- ✦ Brokers
- ✦ Broker-dealers



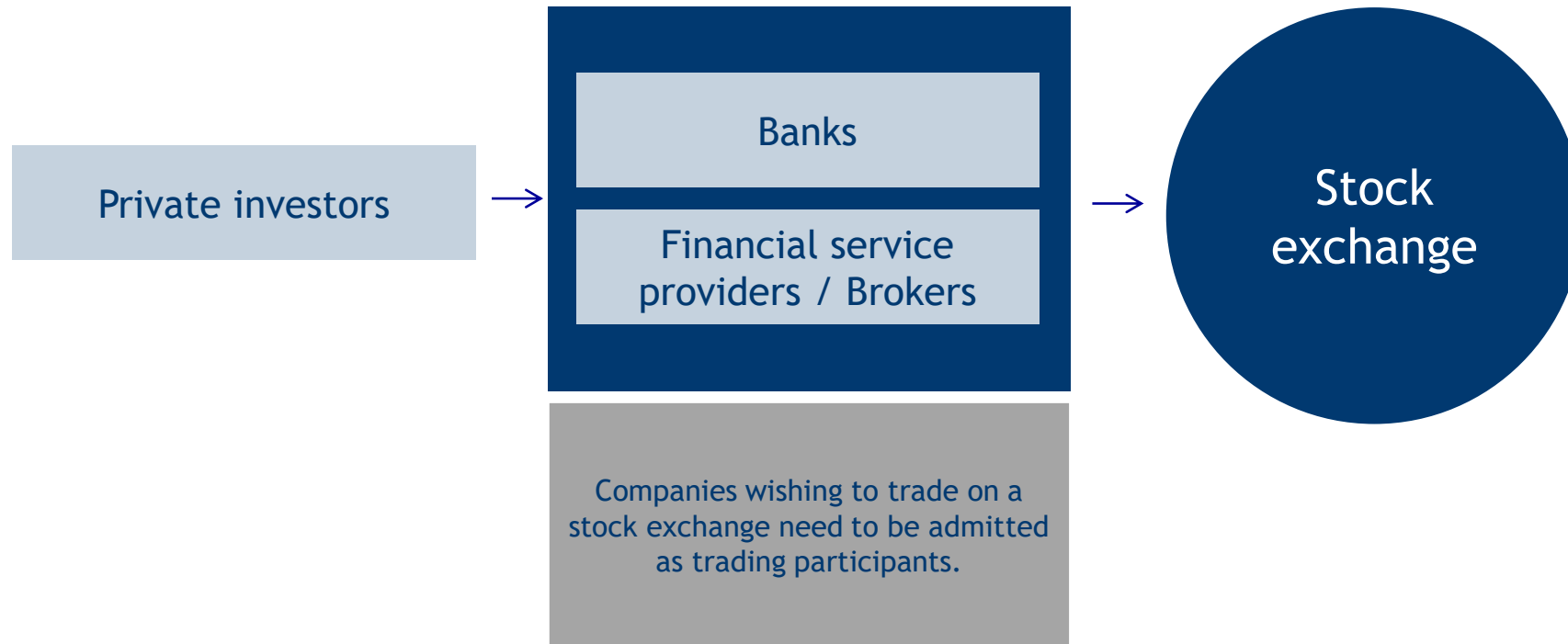
Market intermediaries

- ✦ Lead brokers and specialists
- ✦ Dealers
- ✦ Market makers

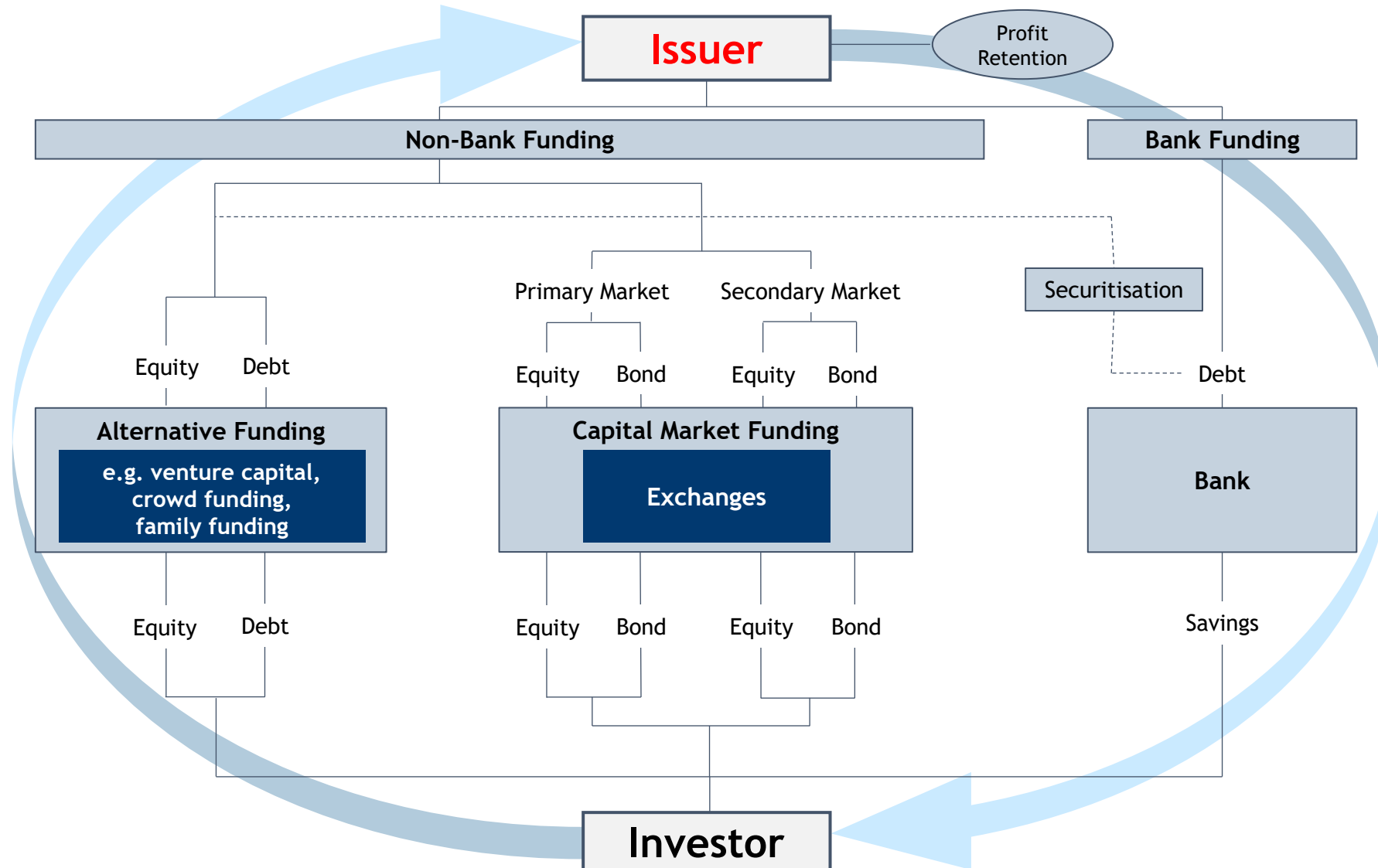
Infrastructure of the capital market

- ✦ Stock exchanges (regulated trading venues)
- ✦ Other trading platforms
- ✦ Clearing and risk systems
- ✦ Booking systems for settlement and safekeeping
- ✦ Transaction registers
- ✦ Payment systems
- ✦ Information systems
- ✦ Connectivity / Technology
- ✦ Data providers (Financial news services)
- ✦ Indices
- ✦ Financial analysis
- ✦ Rating agencies
- ✦ Software providers

Indirect market access for private investors



Sources of bank funding and non-bank funding



2

Stock exchanges and other trading facilities

Matthias Luck

A short history of exchanges

Trading venues similar to exchanges existed during the Renaissance, the Middle Ages and even Ancient Rome.



1460

Establishment of the Antwerp Stock Exchange, the world's oldest stock exchange. In 1531 the Antwerp Stock Exchange was also the first exchange to have a building specifically erected to house securities trading.

1602

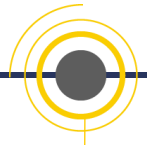
The Dutch East India Company (VOC) issued the first shares on the Amsterdam Stock Exchange, becoming the first publicly traded company in the world.

Around 1650

The secondary market in VOC shares provided what investors wanted from modern securities markets: liquidity and price formation.

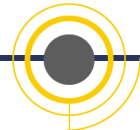
A short history of exchanges

Soon, a lot of companies began issuing shares.
While in some cases this euphoria ended with bubbles and crashes,
shares were very successful overall.



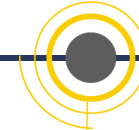
19th century

London Stock Exchange and New York Stock Exchange were established. Exchanges became a central part of the financial system and the modern economy.



1866

A telegraph line between New York and London reduced time delay between them from 5 days to 20 minutes.



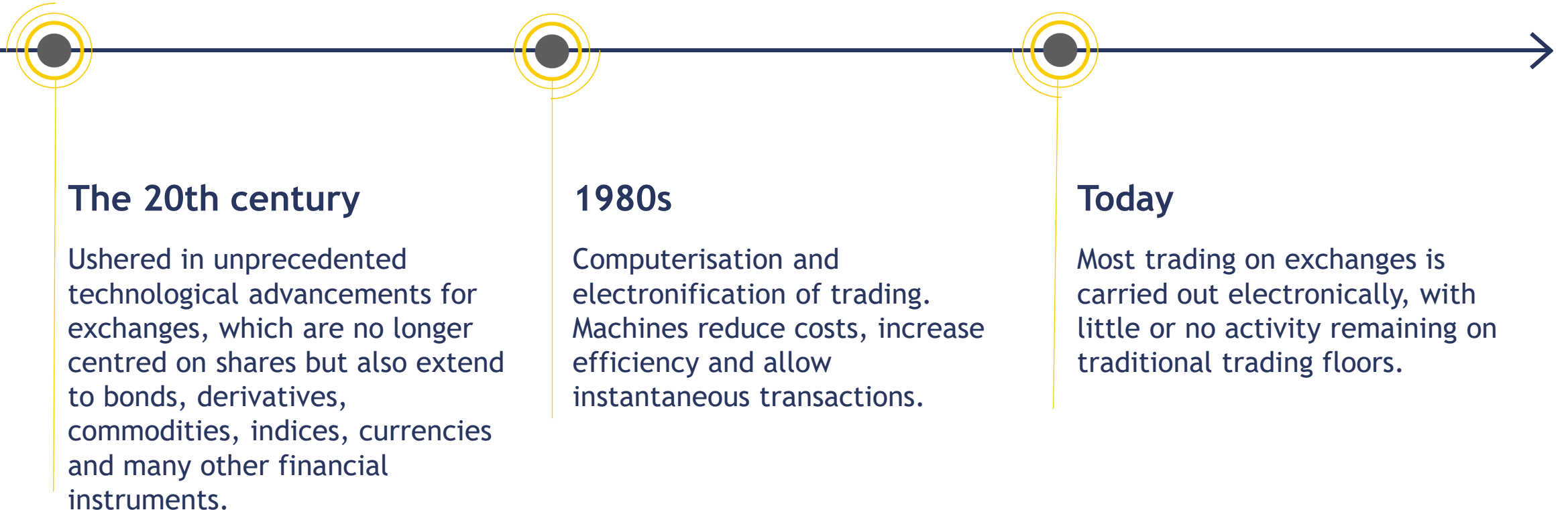
1870 - 1914

Rapid development of international financial flows. Prices on exchanges transmitted worldwide.



A short history of exchanges

Most countries in the world have their own exchange.
FESE represents 36 European exchanges (regulated markets).



The trading - post-trading process chain



Key elements of a stock market

The stock market is an organised and fair market, which fulfils four economic functions:

Stock market

Regulation



Establishes rules and enforces them.

Listing



Allows raising capital.

Trading



Allows pricing and risk transfer.

Market data

A photograph of a digital display showing market data, including various numbers and symbols, likely representing stock prices and market movements.

48,877	43,044	43,856	-	4
23,750	23,735	23,750	+	0
30,332	30,100	30,120	+	0
22,011	21,853	21,853	-	0
150,892	147,725	150,892	+	5
18,913	18,825	18,913	+	0
68,230	67,680	67,680	+	0
2,919	2,760	2,773	-	0
71,900	71,045	71,267	+	1
17,734	17,473	17,528	+	0
40,942	40,942	40,942	+	0
88,167	88,167	88,167	-	0

Provides signals for capital allocation.

Key facts: Exchanges



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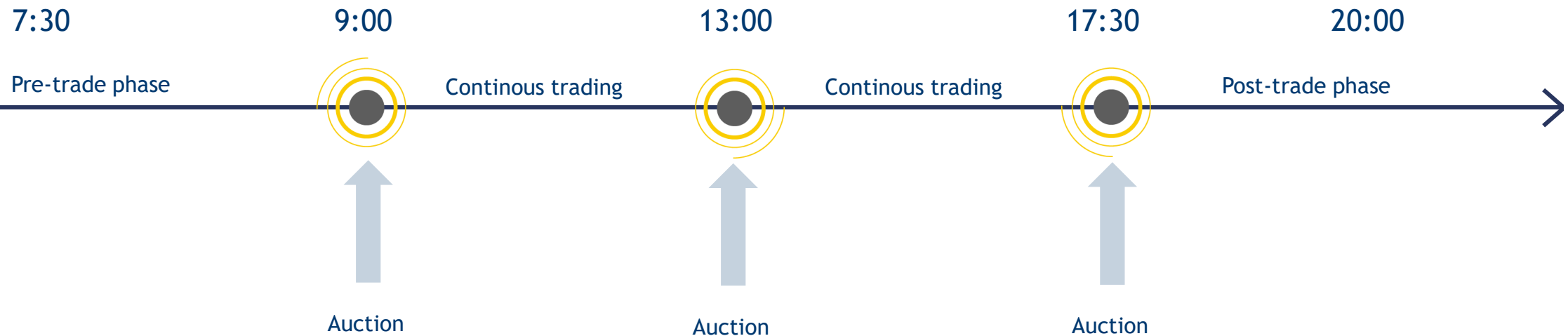
Creates trust and certainty

Stock exchange: an organiser of securities trading

- ✦ Admission of securities of issuers
- ✦ Admission of trading participants
- ✦ Ensuring effective pricing and fair trade
- ✦ Supply the markets with information about orders and deals

The stock market is a marketplace where supply and demand are brought together and securities are exchanged using a transparent pricing mechanism

A trading day - using the example of Xetra®



Auction

- ✦ Partially closed order book
- ✦ Determination of the auction price according to the highest executable order volume at the lowest overhang

Continuous Trading

- ✦ Trading in an open order book with cumulative quantities at individual limits
- ✦ Continuous price determination and order execution according to price / time priority

Who trades on exchanges?

INVESTORS

Buy-side

- Pension funds
- Insurance companies
- Hedge funds



End Investors



Broker

INVEST CAPITAL



Broker

RAISE CAPITAL



COMPANIES

L'ORÉAL

Telefonica

Swedbank

SWAROVSKI



NOKIA

swatch

ABInBev

Users of the stock market

Investors

- ✦ Can buy or sell their securities on the stock exchange and invest their money profitably.
- ✦ The trade adheres to certain rules which apply to all market participants.
- ✦ The stock market ensures the rapid purchase or sale of securities.

Issuers

- ✦ These come via equity to equity and via bonds to borrowed capital.
- ✦ With this capital, they finance their investments, research and market development, while at the same time ensuring their continued competitiveness.

Features of a modern trading venue (stock exchange)

Liquid

- ✦ Wide access for market participants
- ✦ Standardised products
- ✦ Investors
- ✦ Long and short activities

Transparent

- ✦ Relevant reference and market data
- ✦ Pre-trade, on-trade, post-trade information
- ✦ Data aggregation

Means against market abuse and financial crime

- ✦ Solid rules
- ✦ Market surveillance
- ✦ Coordination with other institutions
- ✦ Enforcement expertise

Low transaction costs

- ✦ Low tariffs along the entire value chain
- ✦ Low market impact thanks to high liquidity
- ✦ Competition as the primary cost driver

Reliable & available

- ✦ Platform stability
- ✦ Minimised counterparty risk (CCP)
- ✦ Permanent availability

Tasks of a stock exchange

Secure matching of capital providers and capital seekers

Pre-IPO market

Development of an ecosystem for growth companies

Primary market

Raising of equity by issuing shares and borrowed capital by issuing corporate bonds

Secondary market

Continuous price determination in the trading of securities

Legal market segments

EU regulated market (RM)

Regulated market (organised market)

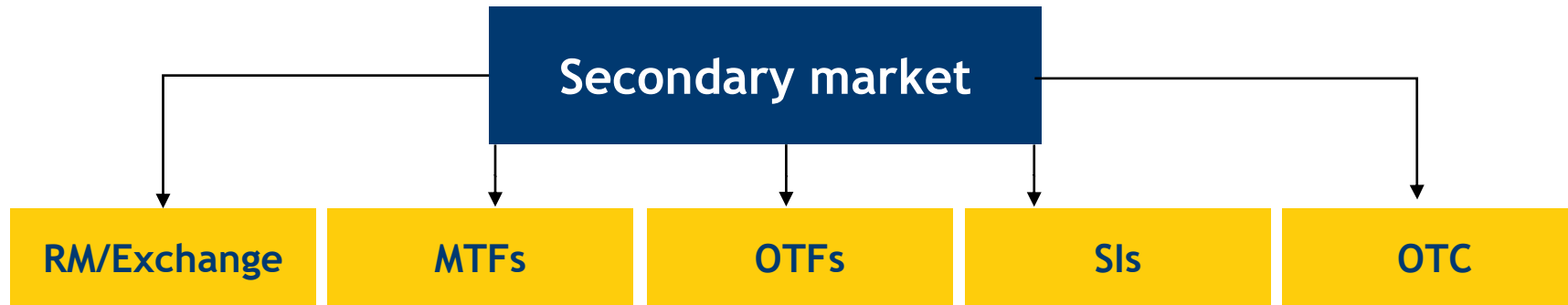
- * Legal transparency requirements and follow-up obligations such as
 - * Annual Accounts and Interim Reports
 - * Ad hoc publicity obligation
 - * Disclosure of Director's Dealings

Exchange-regulated market

Over-the-counter (open market; no organised market)

- * Transparency requirements depending on whether the issuer has requested or approved inclusion (has been operative since the EU Market Abuse Regulation came into force in July 2016)

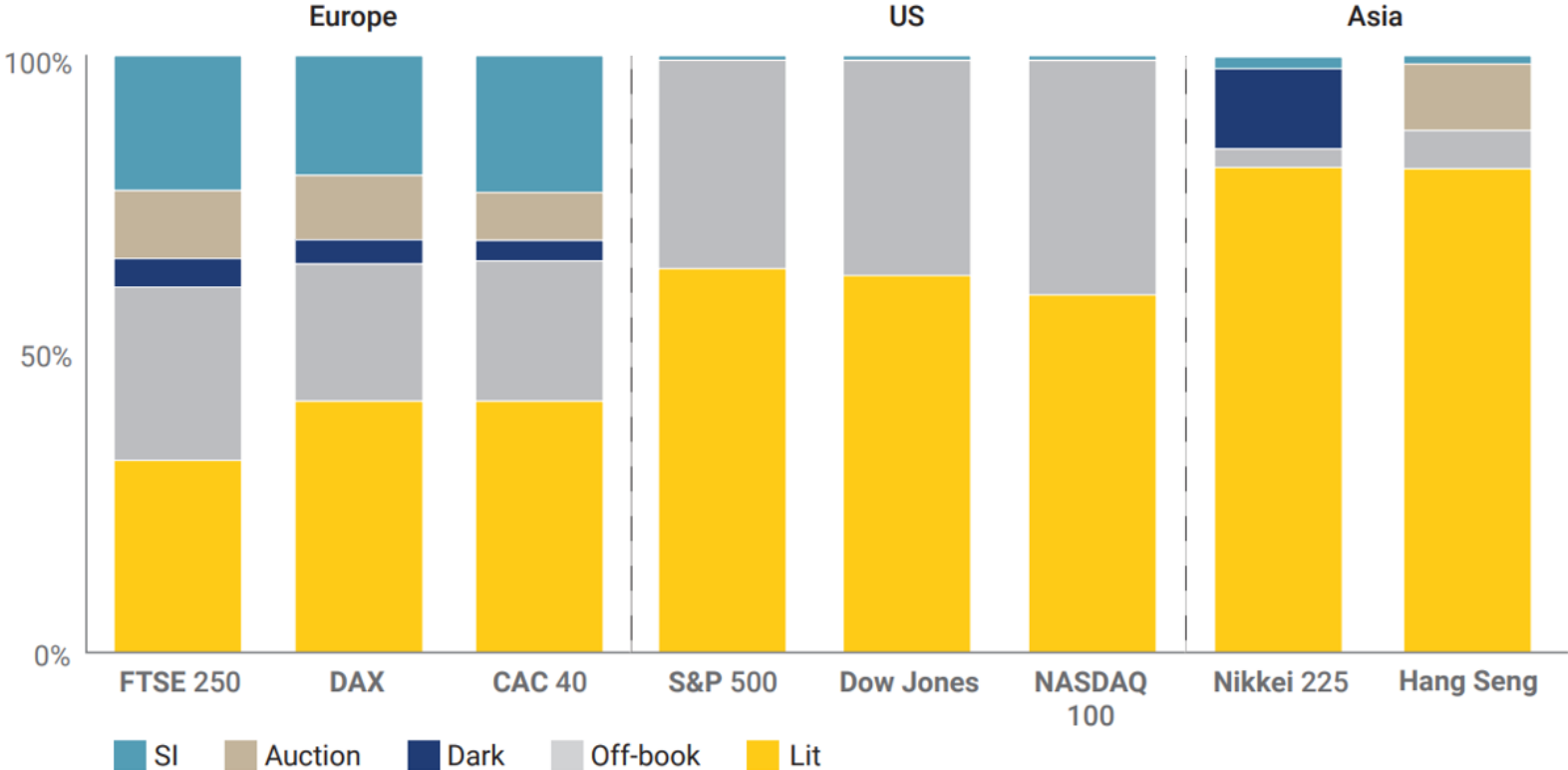
Trading venues



- ✦ **RM/Exchange:** A regulated market, with established rules (supervisory bodies, value date T + 2, pricing rules, price transparency, non-discretionary basis, ...)
- ✦ **MTF (Multilateral Trading Facility):** A trading venue with fixed rules such as stock exchanges originally based on MiFID I. It has significant differences with stock exchanges (no official listing, trading of stocks and other securities, often blue chips, ...)
- ✦ **OTF = Organized Trading Facility:** Trading systems based on MiFID II on bonds, structured finance products, emission rights and derivatives
- ✦ **SI (Systematic Internalisers):** Trading on own account when executing client orders in internal systems
- ✦ **OTC (Over-the-counter):** Trading in a non-localised market with no fixed trading hours and individual contract drafting

Trading value for major equity indices by region

% of Trading Volume, 2018



Source: Fidessa Fragmentation Index

Note: “Lit” indicates trades executed on-book. “Off-Book” indicates trades executed OTC and reported to one of the reporting venues. “Dark” trades executed on a dark pool where the orders are not visible pre-trade. “SI” indicates trades executed by a Systematic Internaliser.

Exchange trading vs other venues

- ✦ Liquid open order books generate best prices
- ✦ Open order books can be too small for larger orders
- ✦ Alternative trading venues offer placements for larger orders outside the stock exchange
- ✦ Alternative trading venues generate their prices from the stock exchanges (primary markets) -> They need liquid stock exchanges
- ✦ Stock exchanges can only fulfil the function of a lighthouse for the alternative trading venues if they have enough liquidity -> Protecting the stock exchanges is necessary for fair and efficient pricing

Security mechanism

Volatility interruption

- ✦ Occurs when the potential execution price is outside a predefined price range
- ✦ Change of trade form (continuous trade) or extension of the call phase (auction)
- ✦ Ensures price continuity
- ✦ Extended volatility interruption with large deviation

Comparison of international capital markets

CAPITAL MARKETS KEY STATISTICS, 2018

		Europe	EU27	US	Asia
Primary market	Equity funding (% of GDP)	68%	50%	156%	97%
	Corp. debt funding (% of GDP)	77%	72%	114%	50%
Secondary markets	Equity turnover velocity	112%	155%	161%	112%
	Equity turnover (% of GDP)	76%	78%	252%	108%
	Corp. debt turnover velocity	25%	22%	80%	n/a
	Corp. debt turnover (% of GDP)	19%	16%	91%	n/a
Derivatives	Notional value traded (x cash securities)	40x	25x	35x	12x
	Notional value traded (x GDP)	84x	46x	128x	25x
	Market share of global FX market	49%	12%	17%	27%
	Market share of global commodity market	19%	3%	66%	14%

□ Low ■ Medium ■ High

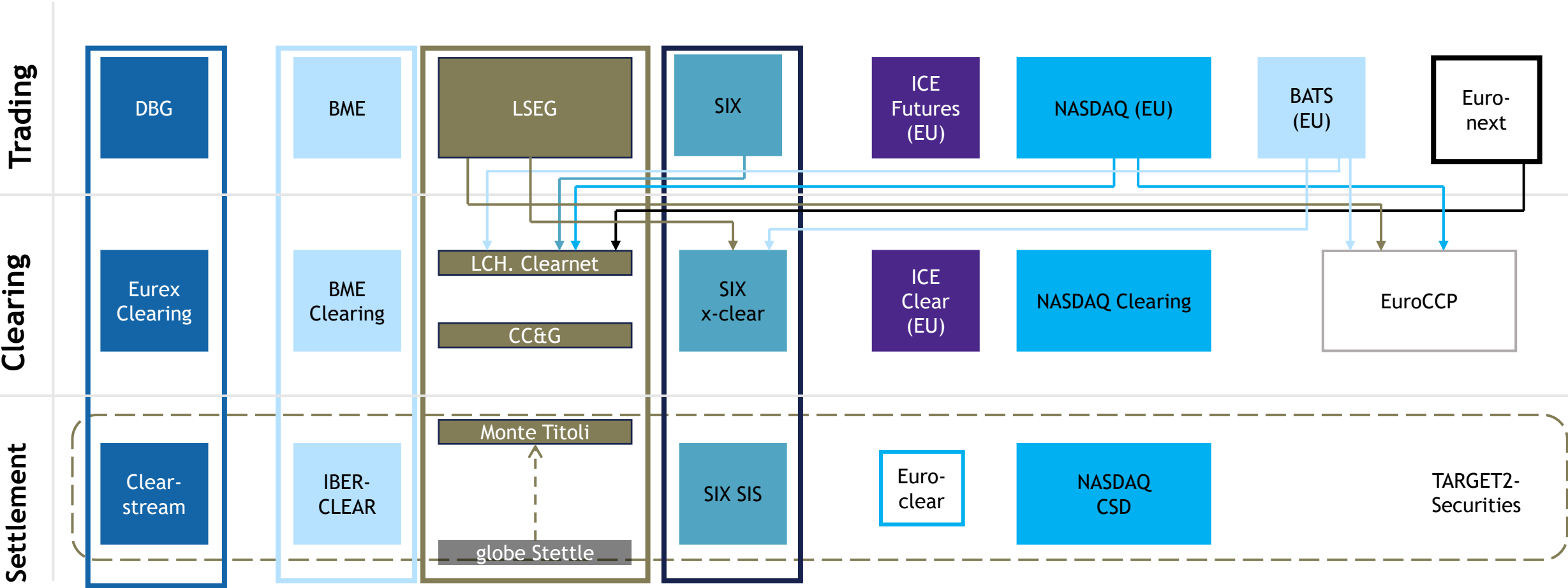
Corporate debt secondary markets data for 2016
 Note: Europe includes EU28 countries as well as Norway and Switzerland
 Source: Oliver Wyman analysis

Source: FESE Blueprint - Capital Markets Union by 2024

Market share by asset classes (global)

Asset Class	DBG	LSEG	NASDAQ	ICE	HKEX	EURO-NEXT	BME	SIX	SHANG-HAI	SHENZEN	CME
Bonds											
Equities											
Derivates											
Commodities											
No market share Small market share Medium market share High market share Very high market share											

Business models of European infrastructure providers



Note: The figure focuses on the largest players in Europe.

3 Regulation

Marco Winteroll

How are exchanges regulated?

Exchanges are highly regulated entities subject to harmonised European rules that ensure they...



1 Provide highly efficient, reliable and democratic markets



2 Ensure market integrity through fully transparent markets



3 Enable financing of the real economy

In order to ensure the integrity of markets run by exchanges, they are subject to the following EU rules:

The Markets in Financial Instruments Directive (MiFID II) and Regulation (MiFIR).

The Markets Abuse Regulation (MAR) and Markets Abuse Directive (MAD).

The Benchmarks Regulation (BMR).

- The European Market Infrastructure Regulation (EMIR).
- The Short Selling Regulation.
- The Prospectus Regulation.
- The Transparency Regulation.

There is no perfect market ...

... that is why we need rules and regulation

Theory



...complete information


...efficient prices

...rational market participants

"Markets are efficient"
Eugene Fama, 2013,
Nobel Price in Economics

...but reality is different.
There are...

Reality



...information asymmetries

...Conflicts of interest

...irrational behaviour

"Market participants are irrational"
Robert Shiller, 2013,
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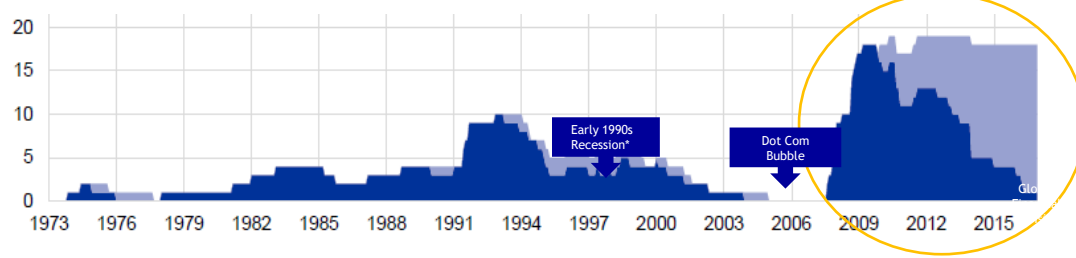


We need rules to ensure negatively impacting determinants are reduced to the lowest possible level

Is the next crisis just a matter of time?

Frequency and number of countries affected have increased significantly

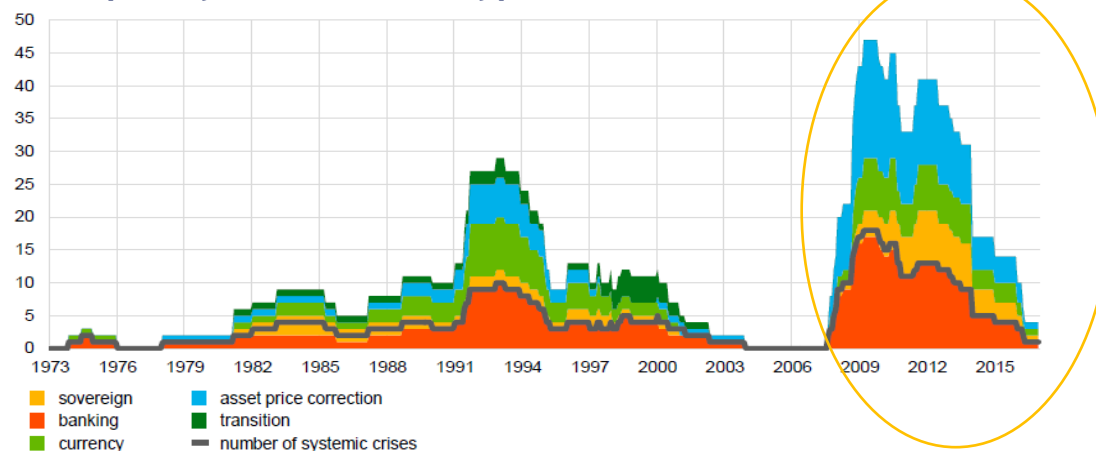
Frequency of crises, acute phases and recovery periods



Note: This chart refers to systemic crises which are deemed relevant for macroprudential analysis.

- number of countries in acute phase of systemic crisis
- number of countries in phase of recovery

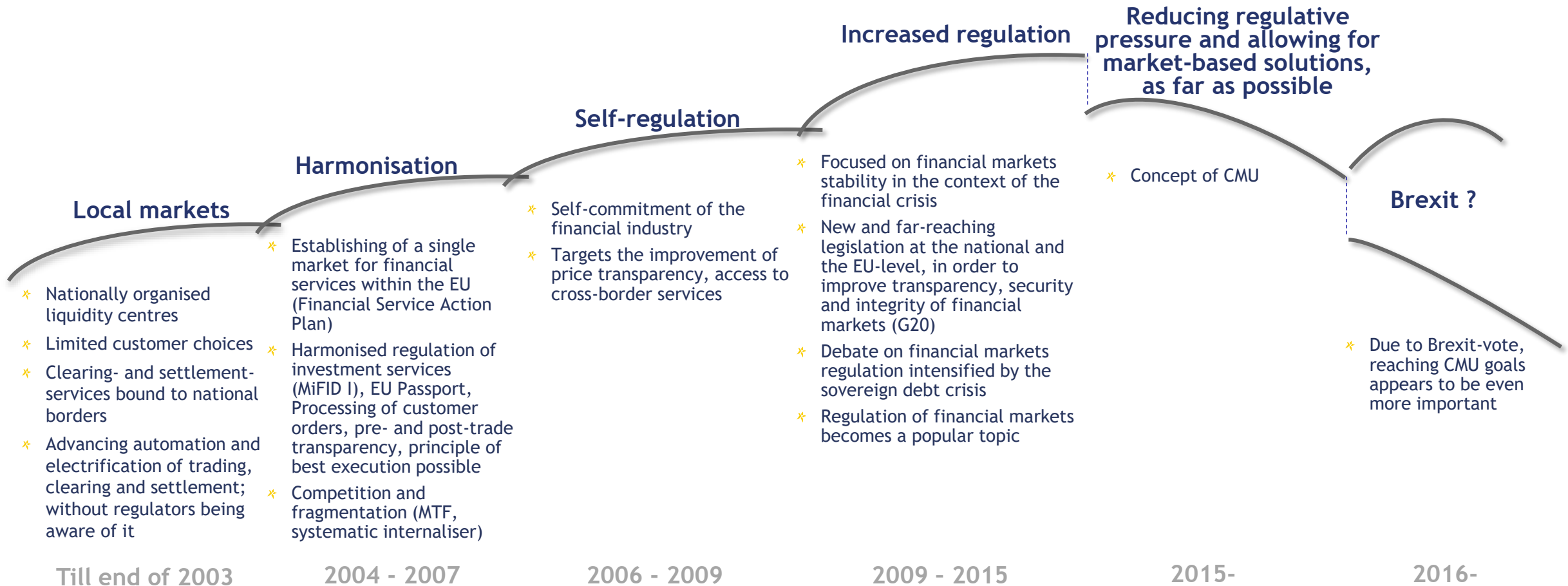
Frequency of crises and type of materialised risk



Source: ECB (2017)

- ✦ Frequency of crises has increased
- ✦ Connectivity of markets has grown and lead to more cross-border effects of market failures
- ✦ Asset price adaptations were the main driver of global financial crises

Development of the EU financial market regulation



G20 launched a comprehensive programme of reforms across four core areas

1

Building resilient financial institutions

- * Timely implementation of Basel III capital and liquidity standards
- * Banks continue to build higher and better quality capital and liquidity buffers
- * More work needed to implement other Basel III standards, while some advanced economies' rules are not fully consistent with the Basel framework

EU's answer

- ESAs
- Banking Union
- SSM+SRB
- CRD

2

Ending too-big-to-fail

- * Implementation of higher loss absorbency, Total Loss-Absorbing Capacity (TLAC) and more intensive supervision is advancing well for G-SIBs
- * Progress slower on other resolution reforms over the past year
- * Substantial work remains to build effective resolution regimes and operationalise resolution plans for cross-border firms

EU's answer

- Banking Union
- SSM+SRB
- CRD

3

Transforming shadow banking into resilient market-based finance

- * This area includes reforms on oversight and regulation of shadow banking entities, including money market funds, securities financing transactions and securitisation
- * Implementation is progressing but remains at a relatively early stage

EU's answer

- ESRB
- AIFMD / UCITS V

4

Making derivatives markets safer

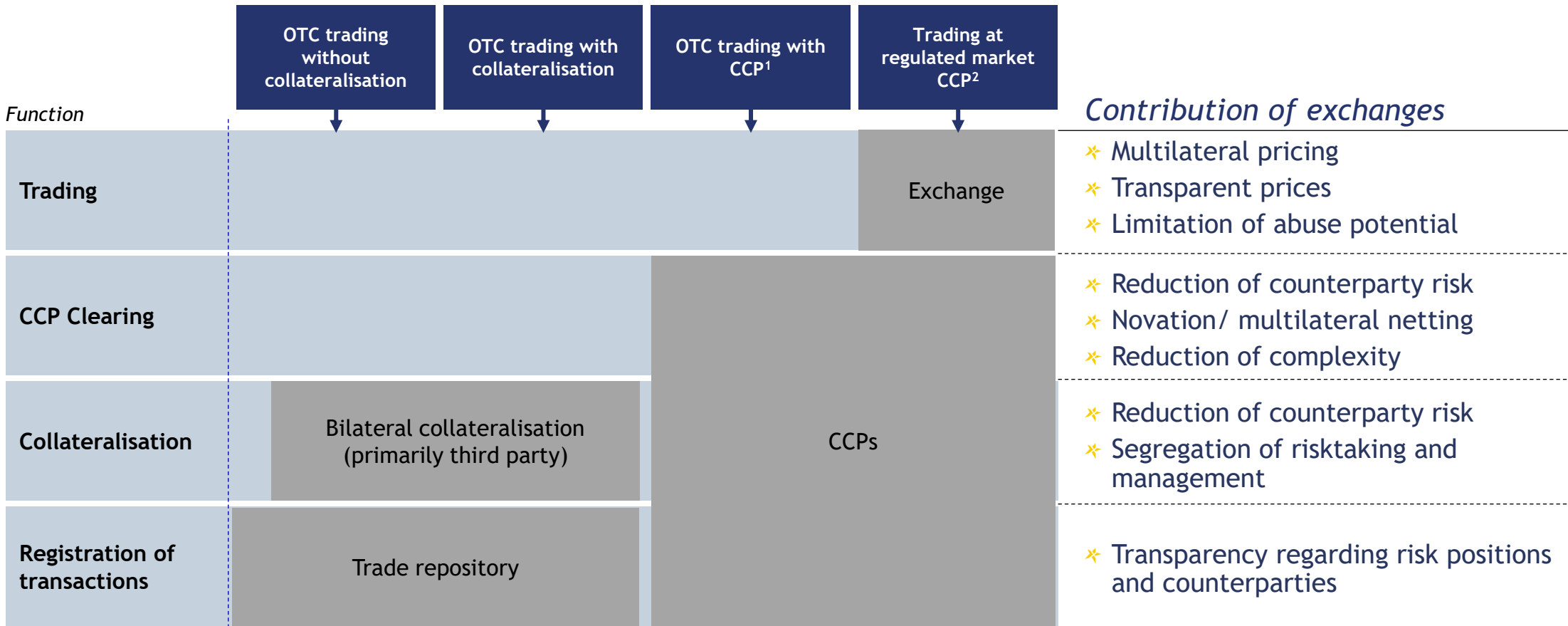
- * Implementation well progressed and most advanced for trade reporting, but significant challenges remain for its effective use
- * Central clearing frameworks as well as margin and interim capital requirements have been implemented in most FSB jurisdictions
- * Platform trading frameworks implemented in half of FSB jurisdictions

EU's answer

- MiFID
- EMIR
- Recovery & Resolution
- CRD

Contribution of Financial Market Infrastructures

Transparency & risk management

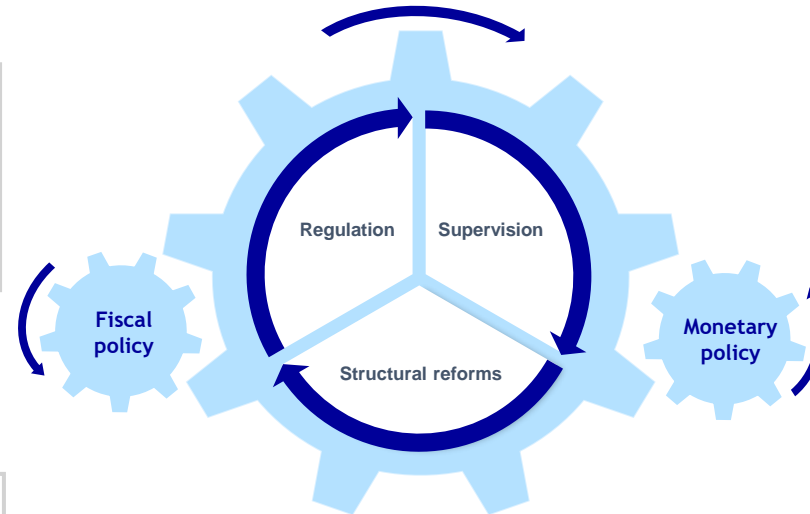


1. Includes multilateral and bilateral trading;
 2. Exclusively multilateral trading

EU more stable due to regulation and supervision

Ensuring a level playing field to avoid arbitrage

- ✓ Banking sector in the EU is less profitable, but much more stable than before
- ✓ Volumes of cleared derivatives contracts in the EU significantly increased



- ✓ Implemented EU measures proved effective
- ✓ Market is able to handle stressed market conditions, such as “Brexit day”

- ✓ EU practices fiscal sustainability, as it exits the market, once economic output increases

- ✓ ECB stabilised markets by expansive monetary policy

- ✓ Figures prove EU high competitiveness

Key Messages

- ✦ EU implemented a robust and stable framework that enables the financial market to cover turmoil without external assistance
- ✦ Agenda has to be completed to ensure benefits out of regulation can be realised
- ✦ Building a financial ecosystem for stable financial markets to finance growth, while protecting from 3rd country effects and protect EU interests abroad



4 Clearing and Central Counterparties (CCP)

Matthias Luck

The trading - post-trading process chain



Further details on the role of clearing will be presented in forthcoming modules of this series.

Definition and function of a clearing house as a central counterparty (CCP)

Definition of central counterparty

- ✦ A legal entity acting as a counterparty in exchange-traded and over-the-counter transactions between two participants

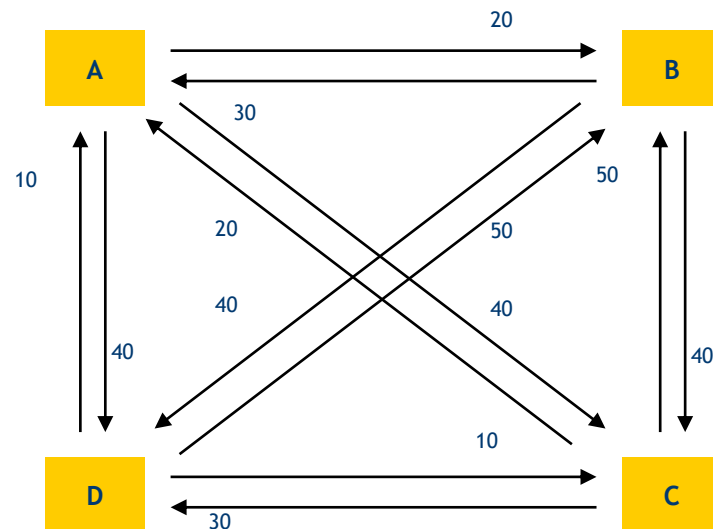
Functions of the central counterparty

- ✦ Assumption of counterparty risk
- ✦ Provision of anonymity after the trade
- ✦ Reduction of securities deliveries through netting
- ✦ Simplified handling across borders
- ✦ Cross-margining (pledged collateral across transactions in the cash and derivatives markets)

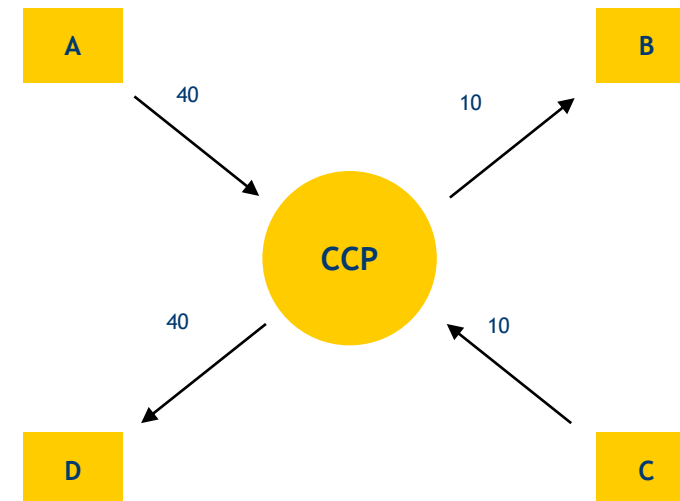
Multilateral netting - CCP

- ✦ Netting enables the clearing of buy and sell transactions with the result that the number of deliveries (settlements) drops significantly

Without netting

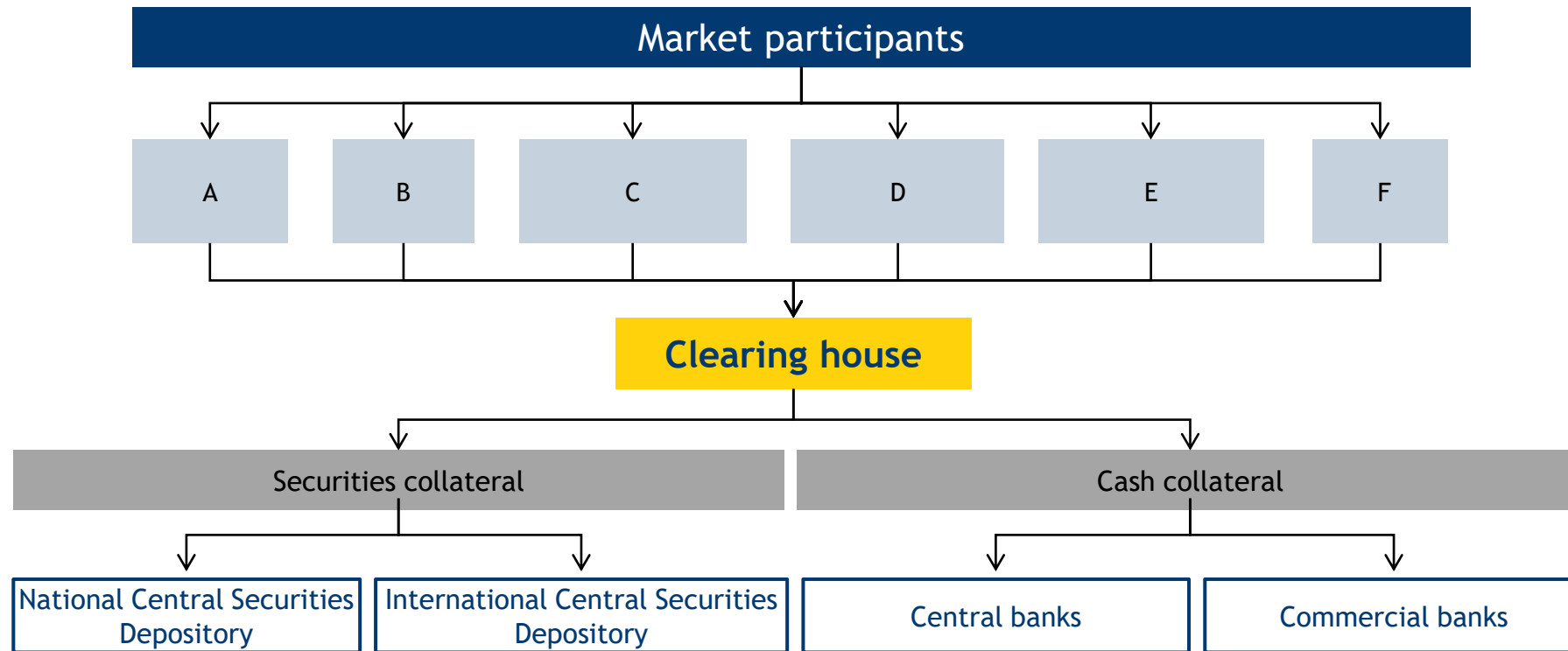


With multilateral netting



- ✦ Reduction of delivery instructions and assumption of counterparty risk by the CCP

A clearing house provides central counterparty services for asset classes on various trading platforms

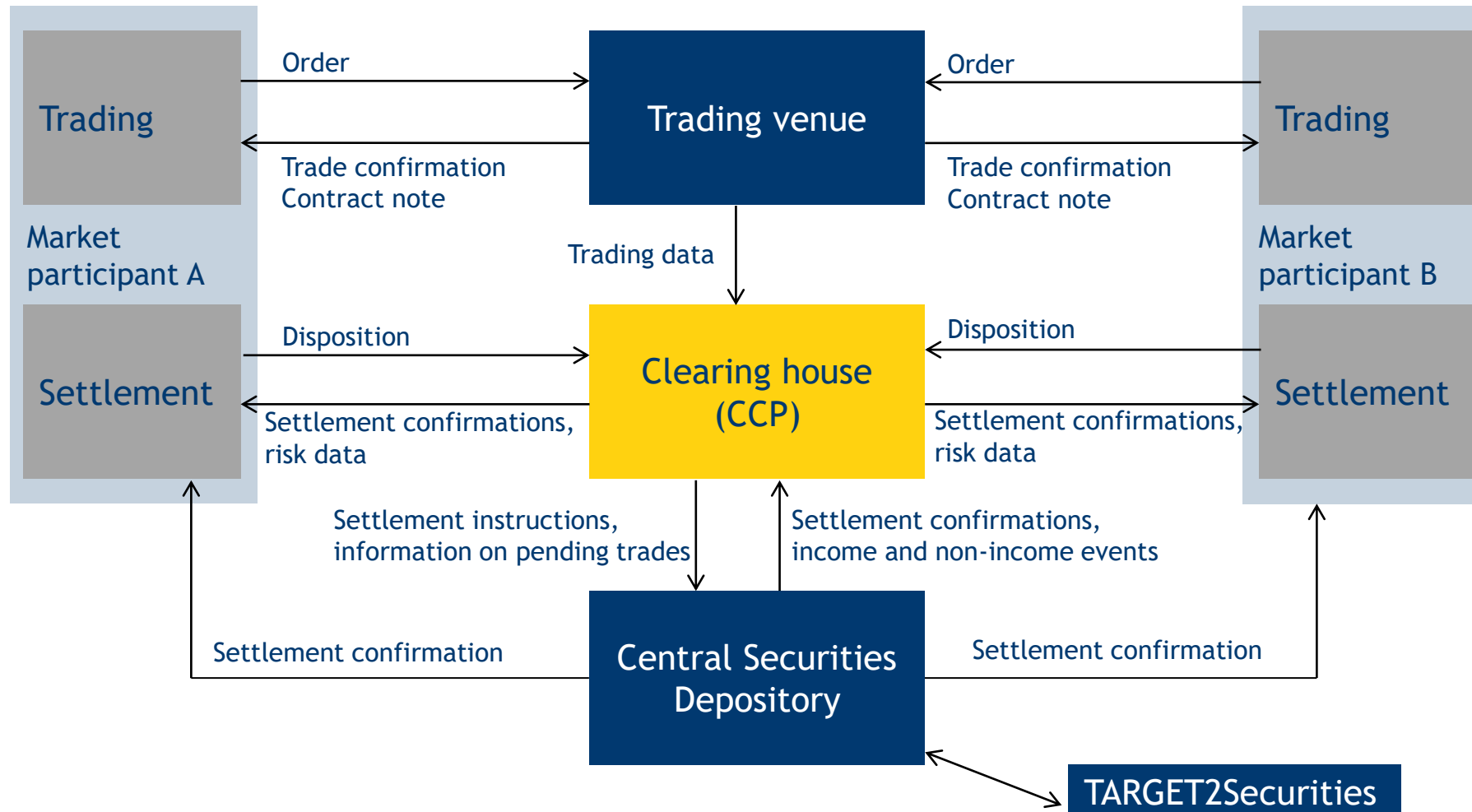


Advantages:

- ✦ Effective risk and collateral management
- ✦ Reduction of cross-border settlements

- ✦ Mitigation of counterparty risk
- ✦ Straight-through Processing (STP)

Model of the central counterparty (CCP): anonymous trading at low risk



How CCPs reduce systemic risk in the financial system

Mitigation of systematic risk by central counterparty clearing

CCPs as independent risk managers

- Neutral valuation of risk exposure at current market prices
- Enforcement of independency determined collateralisation levels

Addressing interconnectedness with central clearing

- Novation of contracts to reduce interconnectedness
- Reducing risk exposure by multilateral netting

Protecting market participants from clearing member defaults

- Insuring against tail risks by robust lines of defence
- Reducing the impact of default by a transparent default management process

Root causes of systemic risk

...prevents...

Excessive risk taking

...lowers...

Interconnectedness of market participants

...mitigates...

Insufficient collateralisation of market and credit risk

5

Settlement and Central Securities Depositories (CSD)

Václav Ježek

The CSD Regulation defines a CSD as an entity which:



Records newly issued securities in a book-entry system (**notary service**)



Provides and maintains securities accounts at the top tier level (**central maintenance service**)



Operates a securities settlement system (**settlement service**)

The trading - post-trading process chain



CSDs

Core Services

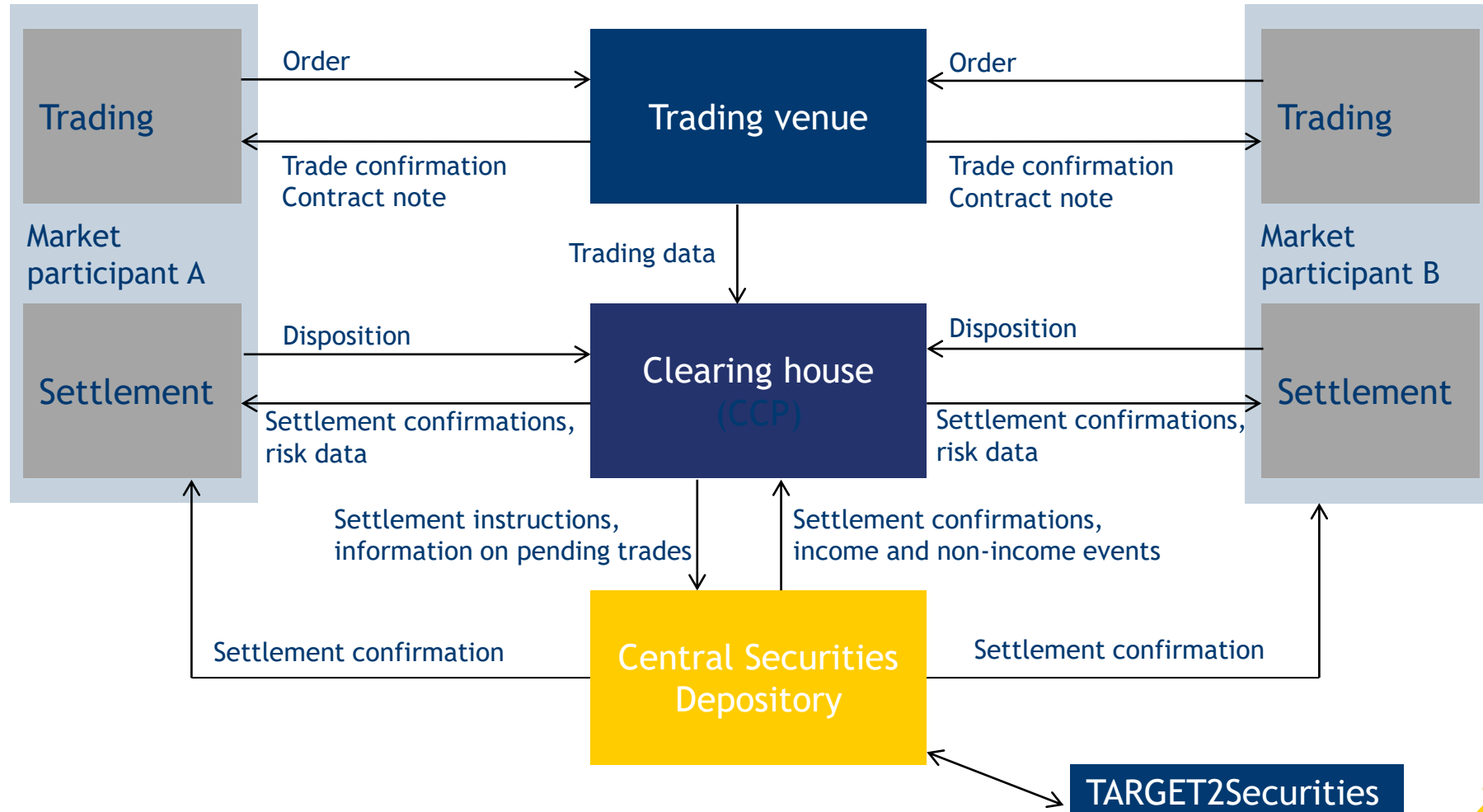
A CSD is a specialist financial organisation which:

- ✦ Holds financial instruments, including equities, bonds, money market instruments and mutual funds.
- ✦ Allows ownership of those instruments to be transferred in electronic form through updating electronic records which are often known as ‘book-entry records’
- ✦ Provides securities accounts at the top tier level
- ✦ Operates a securities settlement system

Role of a CSD

- ✦ Essential role in securities creation, issuance and holding (issuer CSD, investors CSD)
- ✦ Post-trade infrastructure, systemic importance for securities markets, confidence of market participants that securities transactions are executed properly
- ✦ Activities of CSDs limited (services covered by authorisation only)
- ✦ Ownership of CSDs limited (to institutions providing similar services)
- ✦ Outsourcing of core services limited (only based upon authorisation)

Value chain....



Settlement services

CSDs operate a securities settlement system for exchange and OTC trades:

- ✦ A transaction is “settled” once the CSD has credited the account of the buyer with the purchased securities (and debited the corresponding cash amount) while debiting the account of the seller with the securities (and crediting its account with the corresponding cash amount).
- ✦ Such credit and debit movements typically take place simultaneously, in a process called “delivery versus payment”



Delivery versus payment (DVP)

Trade will be settled against payment



Method of settlement stock exchanges typically use to settle trades



Delivery free of payment (DFP)

A delivery of securities which is not linked to a corresponding transfer of funds. In this case, only the securities are moved



OTC trades and transfers

EU regulation, authorisation and supervision

- ✦ National legal acts -Civil codes, companies acts, securities acts, acts on capital market, etc.
- ✦ EU legal acts - Regulation on improving SSS in EU and CSDs (CSDR), Implementing and Delegated Regulations of Commission, Settlement Finality Directive, Shareholders Rights Directive
- ✦ CSD rules - Rules of operations, settlement system rules, price lists
- ✦ Authorities responsible for authorisation and supervision of CSDs (national central banks, specific finance authorities, ESMA)
- ✦ Authorisation and supervision depends on importance in more member states, cooperation arrangements of colleges of supervisors

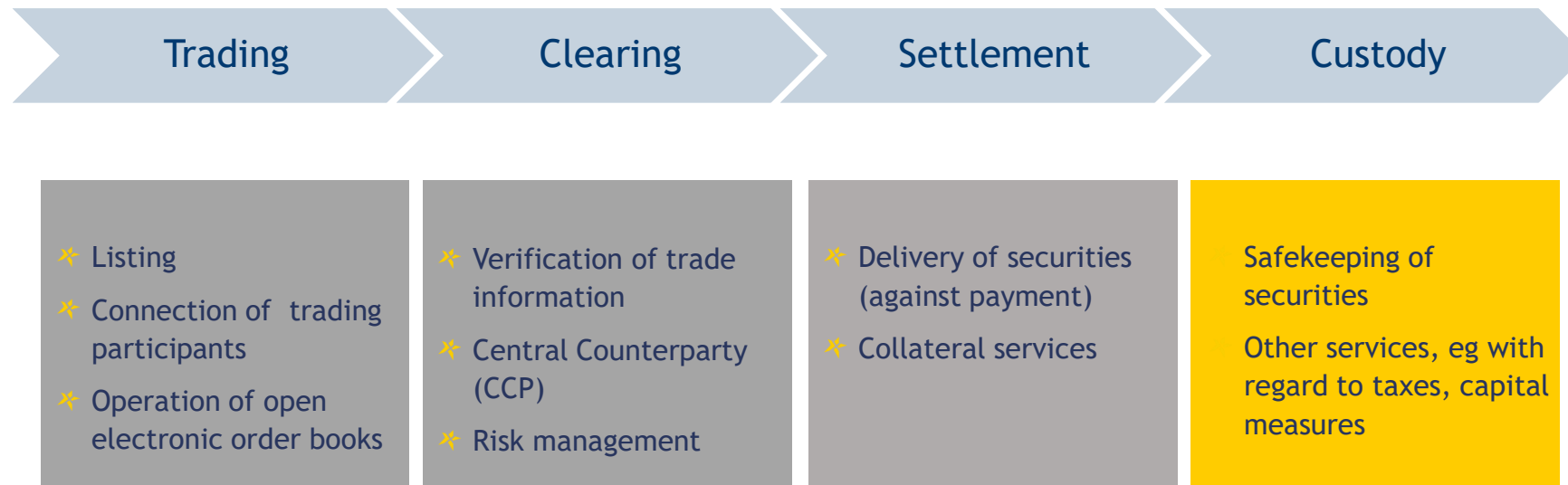
Requirements for CSDs

- ✦ Public governance arrangements (clear organisational structure with well-defined lines of responsibility)
- ✦ Whistleblowing, conflicts of interest management
- ✦ Management body (**independent members**), senior management (**CRO, CTO, CCO**), internal committees (**risk, audit, remuneration**)
- ✦ User committee (representatives of issuers and participants, advice independent from management of CSD)
- ✦ Transparency of fees (**published pricing policy, price lists, discounts**)
- ✦ Appropriate IT tools, business continuity plan and disaster recovery plan
- ✦ Capital requirements (**prudential framework for credit and liquidity risk**)

European Projects and Initiatives

- ✦ Industry supports **harmonization** and removing of barriers (Giovannini)
- ✦ **Code of Conduct** initiative of individual group of stakeholders (FESE, EACH a ECSDA)
- ✦ **Market Standards** for General Meetings and Corporate Actions Processing
- ✦ **Target 2 Securities** (platform for securities settlement in central bank money in Target 2)

The trading - post-trading process chain



The trading - post-trading process chain

When securities are bought or sold, the custodian takes care of the delivery and receipt of securities against the agreed amount of cash. This process, i.e. the exchange of securities against funds, is commonly called **“settlement”**



Holding securities in an investor’s portfolio **attracts benefits**, rights and obligations; the services provided by the custodian to ensure the investor receives that to which he is entitled are commonly called **“asset services”**

These services usually fall into several broad categories:

- collection of dividends and interest
- corporate actions such as rights issues, re-denominations or corporate reorganisations
- payment and/or reclaim of tax
- voting at shareholders’ meetings by proxy

6 Closing remarks

Marco Winteroll

EU capital markets are fragmented and underdeveloped

Key proxies illustrate that the EU has not managed to establish itself as an attractive investment environment:

 <p>Low market capitalization</p>	<ul style="list-style-type: none"> European companies have increased 120% less in market capitalisation in the past 10 years than its US counterparts.¹
 <p>Decreasing number of listed companies</p>	<ul style="list-style-type: none"> The number of listed companies has reached its all time low in 2018 with around 10,000 total listings.³
 <p>Declining number of IPOs and amount of capital being raised</p>	<ul style="list-style-type: none"> Post-GFC, IPOs peaked in 2011 (when 364 companies raised €62 bn on public equity markets) and have continuously declined since, with only 240 IPOs and €36 bn raised in 2018.^{2,3}
 <p>High reliance on bank funding</p>	<ul style="list-style-type: none"> In 2017, EU companies chose at 86% to be funded by banks, whereas capital markets relate to 14% of funding only.⁴
 <p>Difficulties in financing SMEs</p>	<ul style="list-style-type: none"> While pre-IPO capital has increased until 2017, risk capital in the EU is still at low levels compared to the US and Asia.⁴ The lack of risk capital in the EU is driving growth companies to non-EU capital markets to meet their funding needs.⁵ The number of SME listings remains low with only 153 in 2017, which also impacts the potential of companies transition to main markets.^{2,4}
 <p>Extensive fragmentation</p>	<ul style="list-style-type: none"> The number of trading venues has virtually exploded since MiFID II/R became effective. There are more than 660 trading venues registered in the EU today (of which more than 230 venues will be outside the EU post-Brexit).⁶
 <p>Reduced transparency</p>	<ul style="list-style-type: none"> Contrary to political objectives, “lit trading venues” did not gain but in fact lose market share (which currently ranges at 40%) as OTC and alternative venue flows rise.⁷

Combined with...

- 28 different national tax and insolvency regimes
- ...plus remaining internal market barriers
- Diverging national application of EU-law
- Multiple macroeconomic environments
- ...



...proving the urgent need to unleash growth potential via EU capital markets: It will be critical to create a globally competitive ecosystem that fosters sustainable economic growth on the basis of financial stability.

1 S&P 500 and STOXX 600

2 PwC IPO Watch Europe 2018

3 FESE and WFW

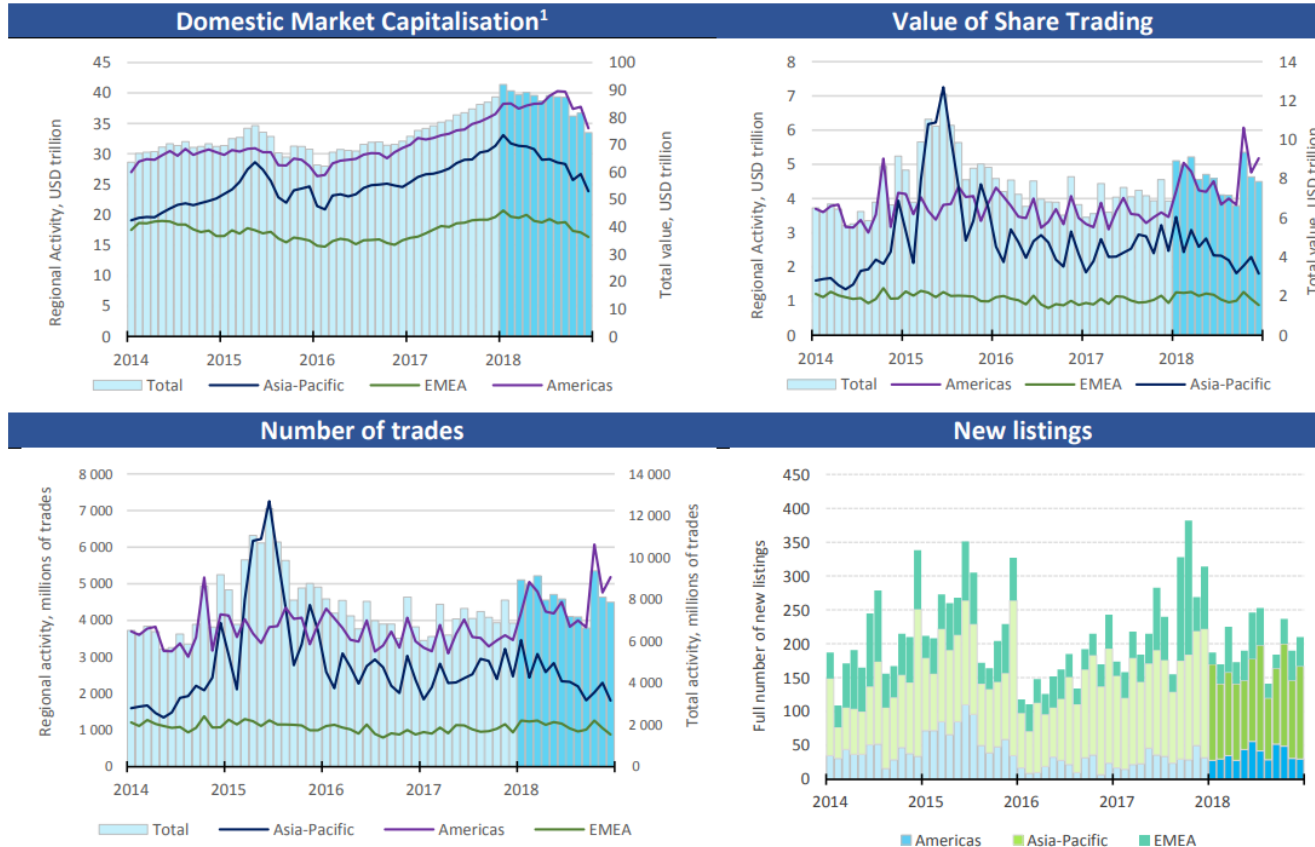
4 AFME, 2018, [Capital Markets Union, Measuring progress and planning for success](#)

5 Acatech, 2019, [Innovationskraft in Deutschland verbessern: Ökosystem für Wachstumsfinanzierung stärken](#)

6 ESMA Register on MiFID/UCITS/AIFMD entities

7 Fidessa Fragulator

Completing the Capital Market Union is essential for stable and competitive EU financial markets



✦ Market capitalisation, trading volume and number of listings show massive need for action in comparison to America and Asia.

✦ Decline in trading volume of about 11%

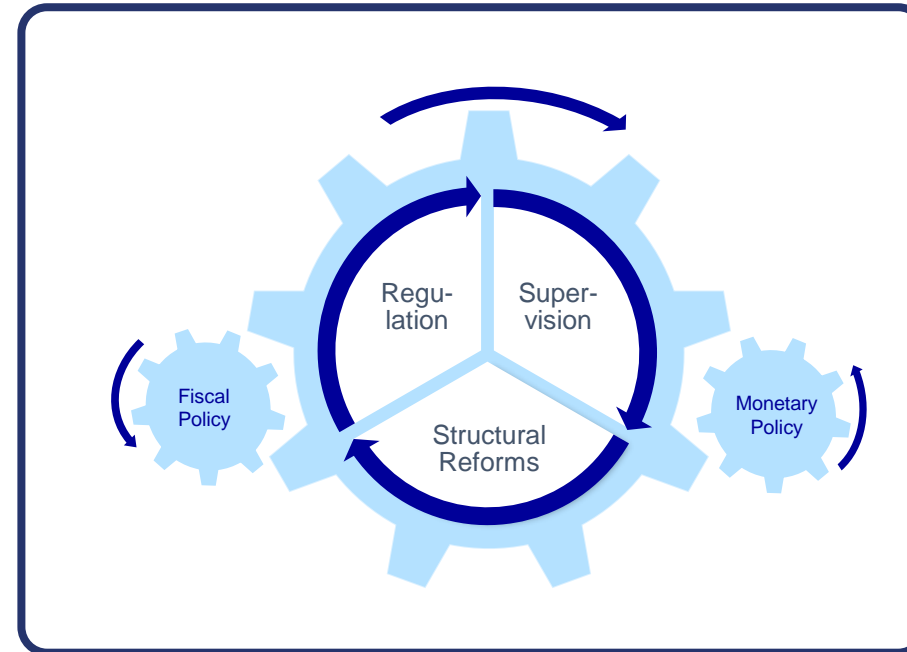
✦ Decline in market capitalization of about 17%.

Source: WFE

To-Do 1: Stability as a prerequisite for growth

No roll-back of the stability agenda

-  Completion of the G20 targets
-  Fine-tuning of the EU legislation
-  Full implementation of the stability agenda
-  Avoid regulatory arbitrage



No roll-back of the stability agenda

To-Do 2: Completing the Capital Markets Union 2.0



Strengthening capital markets to foster the economy



Remove barriers to build a harmonised EU27 financial market (fragmented tax systems, supervisory structures,... reduce)



Increasing competitiveness and attractiveness for investors and companies



Due to Brexit, CMU is particularly important to maintain global competitiveness



Europe as an attractive location for innovation and investment



 Thank you!



Q&A



Annex

What will the future look like?

Technology has already made its mark and will continue to do so. Markets operate differently today, but follow the same basic idea



Securities trading before the computer age: open outcry



Example of a modern trading floor - fully computerised.



Electronic trading

CSDs Services

Issuer service

- ✦ Services related to shareholders' register - registrar monitoring ownership, issue statement or details on account holders (for GMs)
- ✦ Investor relation services and execution of corporate actions (payment of dividends or coupons, merging and splitting issues, increasing share capital, etc.)

Registered Securities

- ✦ Book-entry form of all transferable securities on trading venues
- ✦ Freedom to issue in a CSD authorised in the Union
- ✦ Integrity of an issue, preventing undue creation or reduction
- ✦ Records on the services and activities for 10 years

To securities owners and participants

- ✦ Maintenance of securities accounts - individual and omnibus client segregation (costs and risks)
- ✦ Services provided to owners via participants (bank, investment firm, investor CSD)
- ✦ Participants' activities: register subjects in the register and changes, open and cancel accounts, provide account statements to account holders, instruct CSD to register transfers of securities (from trades, inheritance, donations)
- ✦ Pledges in securities (record, amend, cancel or settle)

Maintenance of securities accounts

Accounts segregation - CSD and participants offer choice between

Omnibus client segregation - hold in one securities account the securities that belong to different clients of a participant

Individual client segregation - segregate the securities of any of the participant's clients

Inform clients of the costs and risks associated with each option



CSD **shall not use** securities that do not belong to it without participant's prior express consent

CSD's ancillary services

- ✦ Ancillary **non-banking-type** services (services that do not increase risks)
 - ✦ facilitating or managing of corporate actions (GM, distribution of dividends, etc.)
 - ✦ organizing a system of lending and borrowing of securities or automated collateral management system
 - ✦ providing ISINs, CFI, LEI
 - ✦ providing information on securities owners to public authorities
- ✦ Ancillary **banking-type** services (ancillary to settlement)
 - ✦ cash accounts to participants and holders of securities accounts
 - ✦ cash credit for reimbursement no later than the following business day, cash lending to pre-finance corporate actions and lending securities
 - ✦ payment services involving the processing of cash and foreign exchange transactions

CSD Settlement process and fails

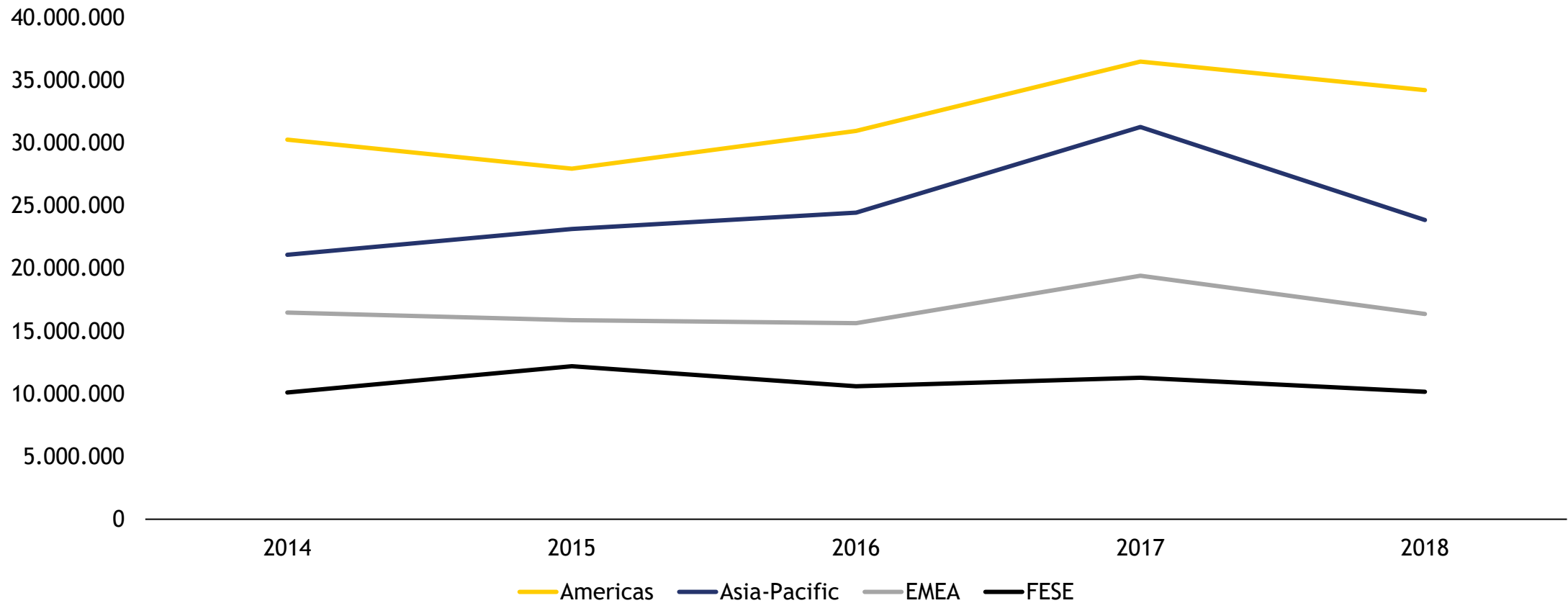
- ✦ Transfer of funds in central bank money (**clearing banks accounts**) and transfer of securities in the register both performed simultaneously, i.e. “delivery versus payment” (DVP) - conditionality of transfers of securities and funds, **stock exchange trades always DVP** (on day $S=T+2$, EU harmonized), or settlement of trades without settlement of cash, i.e. “delivery free of payment” (DFP) - custody transfers, IPO, OTC
- ✦ Moment of finality of transfers of securities and cash and irrevocability of transfer orders
- ✦ Shortage of cash or securities on intended settlement day (fail)
- ✦ Measures to address settlement fails - ex ante (allocation of securities) and ex post (penalties, 4 days of extension period, buy-in procedure)
- ✦ Risk management (participant default rules and procedures, legal, operational risks), clearing funds

Links between CSDs and access to infrastructure

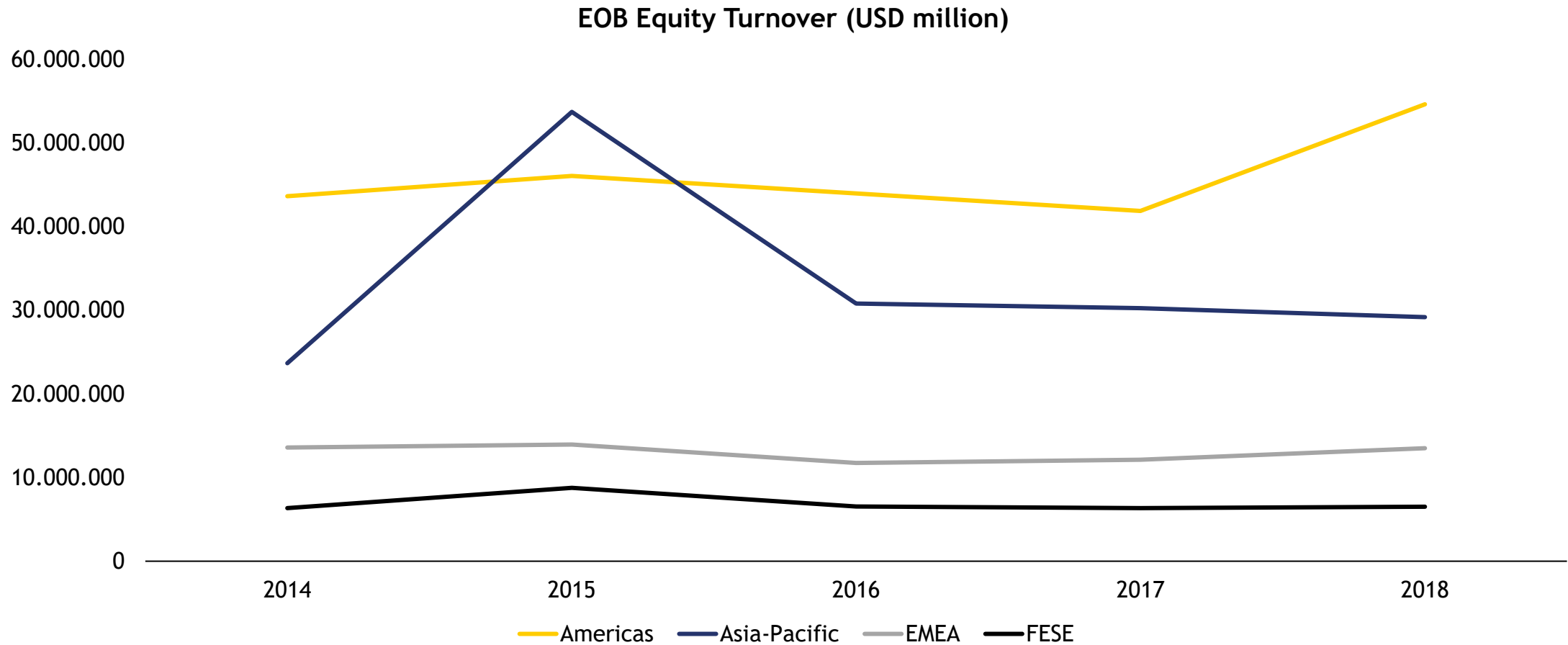
- ✦ Standard, customised or interoperable (establish mutual technical solutions for settlement) link
- ✦ Access on a non-discriminatory and transparent basis
- ✦ Right to become a participant of another CSD and set up a link
- ✦ Access of CCP or a trading venue to settlement systems (on a non-discriminatory and transparent basis for a reasonable commercial fee for such access on a cost-plus basis)
- ✦ Freedom to issue in a CSD authorised in the union (provided that services are covered by the authorisation)

Global Equity Markets

Domestic Equity Market Capitalisation (USD million)



Global Equity Markets



Global Equity Markets

