DEUTSCHE BUNDESBANK
EUROSYSTEM

Money Markets

Structure, Role & Preconditions for Market Development

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Disclaimer: Views expressed are those of the author and do not necessarily represent the view of Deutsche Bundesbank.

Motivation & aim of presentation

- **Money markets play a special role with a view to the functioning and the development of financial markets and the financial system at large**

- **The presentation**
  - provides an overview of **key conceptual issues** and offers a structured **overview of constituting features** of money markets and money market functioning
  - reviews the **role of money markets** providing key arguments why money markets are important (and should be developed)
  - Discusses **preconditions for the development of money markets** shedding light on relevant areas for action

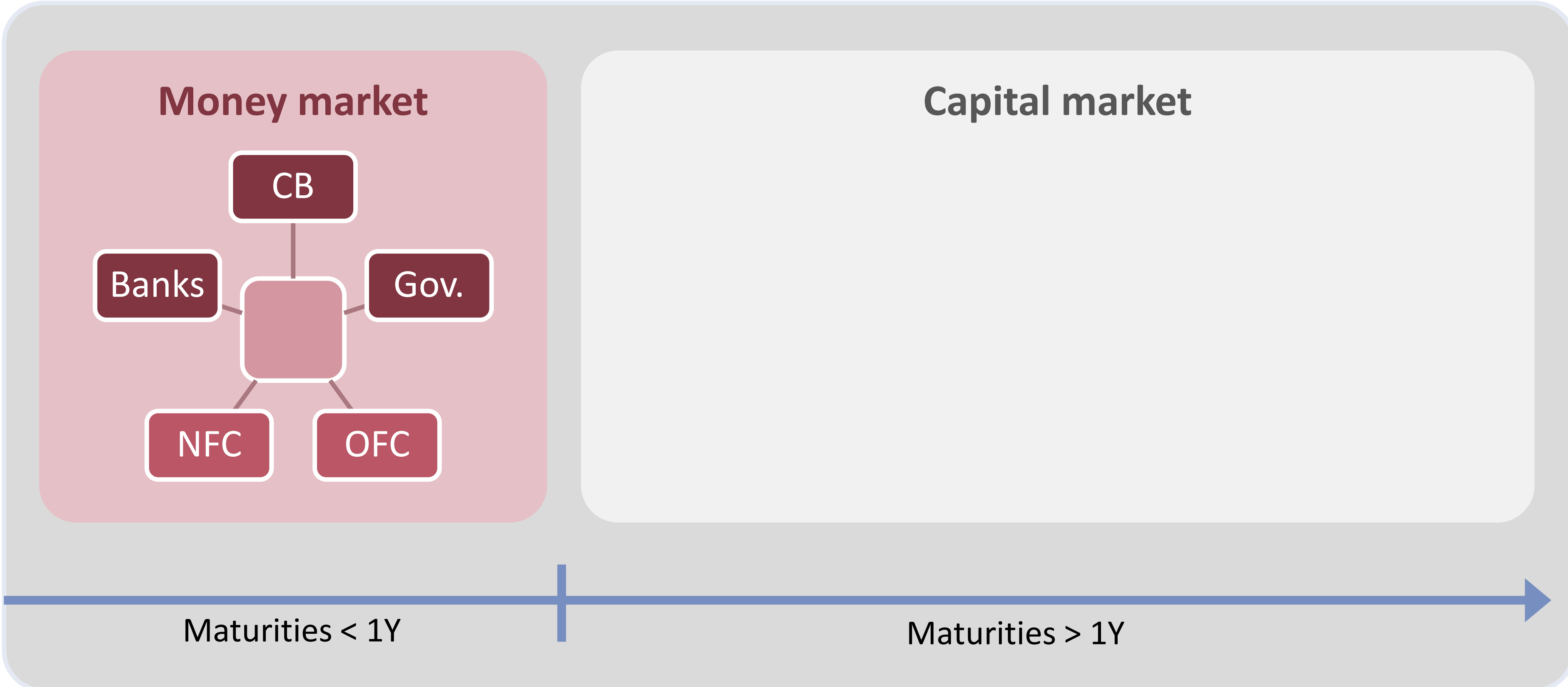
Reflection

What constitutes a money market?

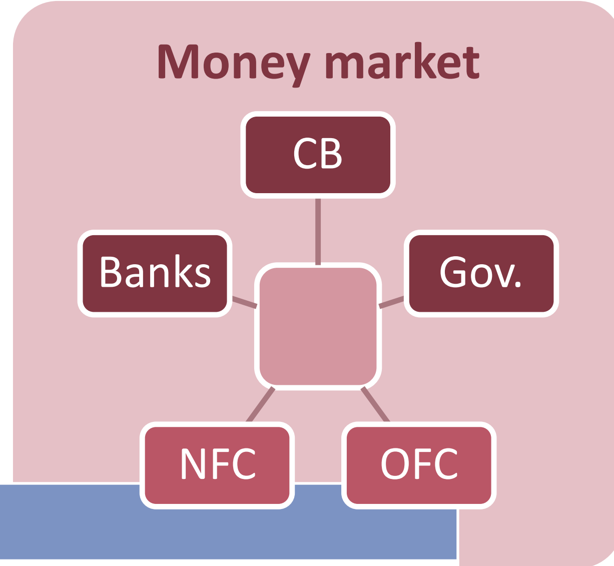
Which subsegments can be distinguished?

Conceptual issues & money market structure

- **Financial market segment where short-term financial instruments with maturities of up to one year are issued and traded between various market participants**



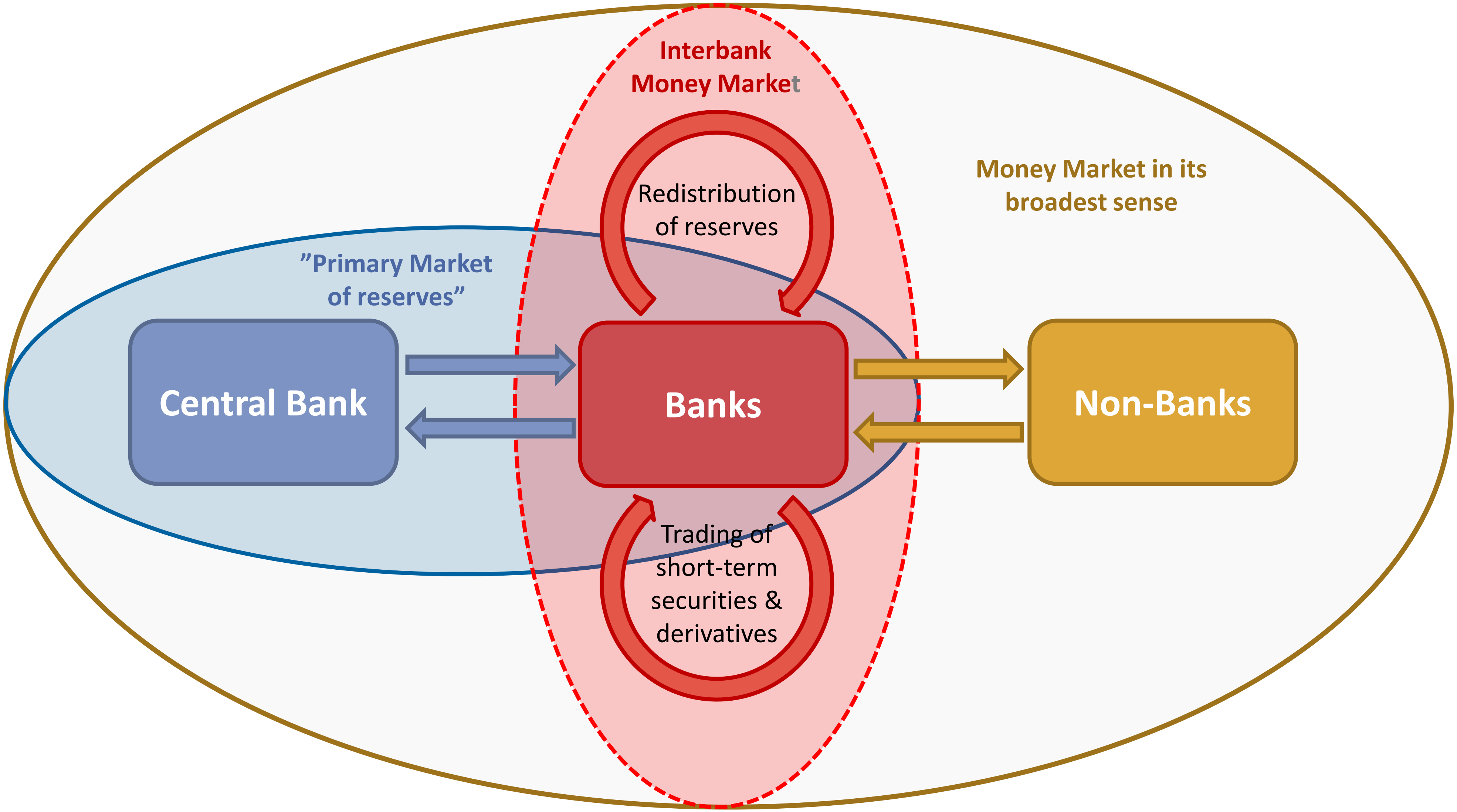
Money market participants



Major money market participants

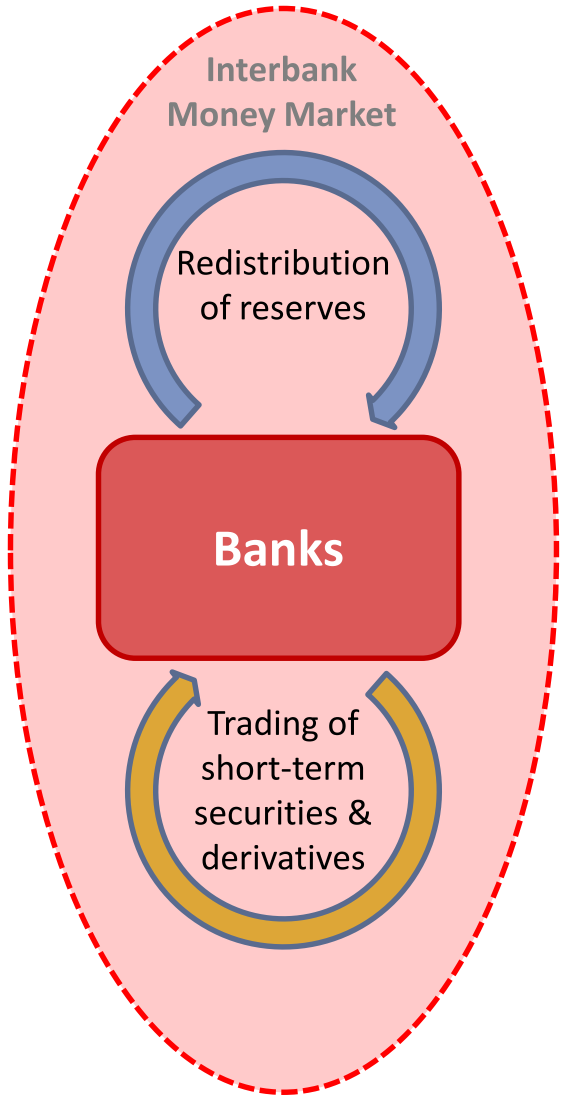
Participant	Role
Banks	What role do the different market participants play?
Central Bank (CB)	
Government	
Non-financial corporations (NFCs)	

Money market participants & related subsegments



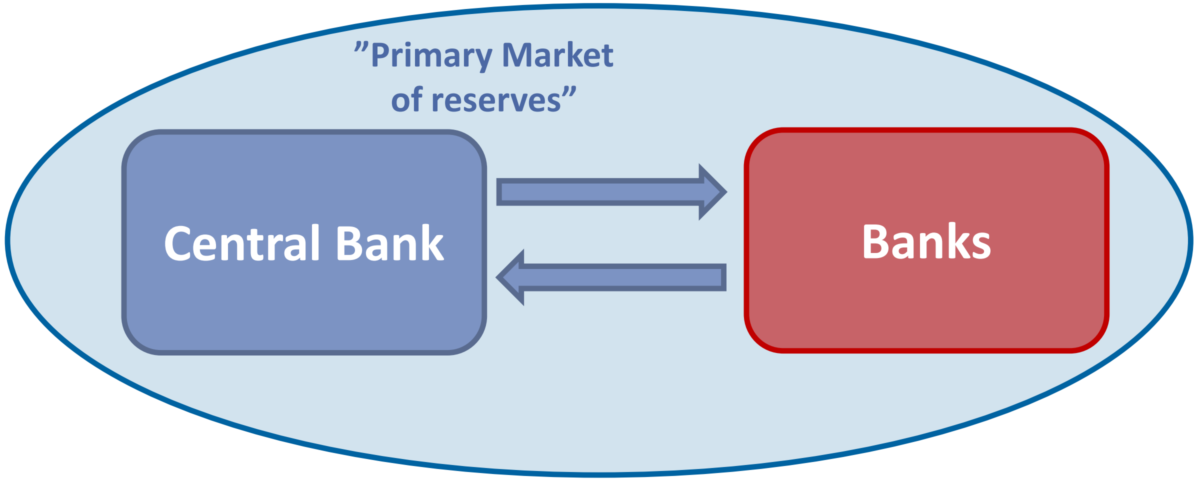
Interbank money market

- **The interbank market is a sub-segment and the core of money markets**
- **Banks participate in the (interbank) money market …**
  - to **optimize costs of short-term funding**,
  - to **minimize opportunity costs of holding liquidity**,
  - to **adjust their liquidity structure** in consideration of economic and regulatory requirements
  - to hedge interest rate risks
- **When transactions are settled in CB money, banks effectively exchange CB reserve balances leading to a reallocation of existing CB reserves**
- **Demand and supply determine money market rates**



Primary market of reserves

- **Banks engage in transactions with CB to manage their liquidity**
  - to satisfy their need of CB reserves by borrowing from the CB - paying the prevailing CB (policy) rate
  - to deposit excess reserves at the CB – which may or may not be remunerated
- **Transactions between banks and the CB affect the overall level of aggregate reserves (liquidity) in the banking system**
- **Interest rates are determined by the policy rates and the operational procedures set by the CB**



Conceptual issues & money market structure
Maturity of transactions: Call vs term money market

Call money market	Term money market
• Transactions during the day with **O/N maturity** by banks and non-banks	• Transactions with **maturities of up to one year** by banks and non-banks

Example: US Treasuries

Date	1 Mo	2 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
09/03/19	2.06	2.01	1.98	1.88	1.72	1.47	1.38	1.35	1.42	1.47	1.77	1.95

Tuesday Sep 3, 2019

Term money market

Money market instruments & related market segments

Various classes of money market instruments can meet diverse needs of market participants

- **"Cash" segment**
  - **Unsecured market**
    - Interbank loans and deposits
    - (Tradable) Short-term securities, e.g. certificates of deposit (CDs), bills of exchange, commercial papers (CPs)
  - **Secured market**
    - Repurchase agreements (repos)
    - Swaps against FX
- **Derivatives segment**
  - Interest rate swaps
  - Forward rate agreements
  - Futures
  - Options

Money market instruments & related segments: Purpose

"Cash" segment

- Main goal of market participants using the cash segment is to **maintain liquidity**
- If the money market is liquid, market participants assume that their demand of short-term liquidity can be satisfied easily and immediately at any time. This **lowers need of market participants to hold precautionary liquidity buffers** which in turn increases aggregate earnings
- Cash products enable market participants with a surplus of short-term deposits to **earn an interest**

Derivatives segment

- **Hedging:** reduce the risk of adverse price movements in an asset. Primarily, hedging against interest rate risks.
- **Trading:** speculating on interest rate changes.
- **Arbitrage:** taking advantage of price differences.

Money market instruments: Cash segment - Overview

Key characteristics & conventions of money market instruments

	Interbank loans/deposits	CDs	Bills of exchange	CPs	T-Bills	Repos
(Main) issuer	Banks	Banks	NFCs	NFCs, banks	Government	Banks, CB
Credit risk	Issuer	Issuer	Mitigated by real goods	Issuer	Issuer	Mitigated by security (collateral)
Interest	Coupon instrument	Coupon instrument	Discount instrument	Discount instrument	Discount instrument	Coupon instrument
Quotation	Yield basis	Yield basis	Discount rate	Yield basis/ discount rate	Yield basis/ discount rate	Yield basis
Tradable/ Secondary market	No	Yes	Yes	Yes	Yes	No

Money market segments & market development

- **The more instruments are issued and actively traded among diverse market participants the more developed the market is**

Money market subsegment	Issuer	Counterparties	Financial instruments
Broader money market	Banks/Non-banks	Banks/Non-banks	(Un)Secured securities & derivatives (up to 1Y)
Broader interbank money market	Banks	Banks	(Un)Secured securities & derivatives (up to 1Y)
Secondary market of CB rerserves	Banks	Banks	CB reserves
Primary market of CB reserves	CB	Banks	CB reserves

Market development

SURVEY

- **To access the survey please open the weblink below**

https://sonjajuko9053.survey.fm/money-market-structure

- Link for moderator: https://crowdsignal.com

What is the basic structure of the money market in your country?

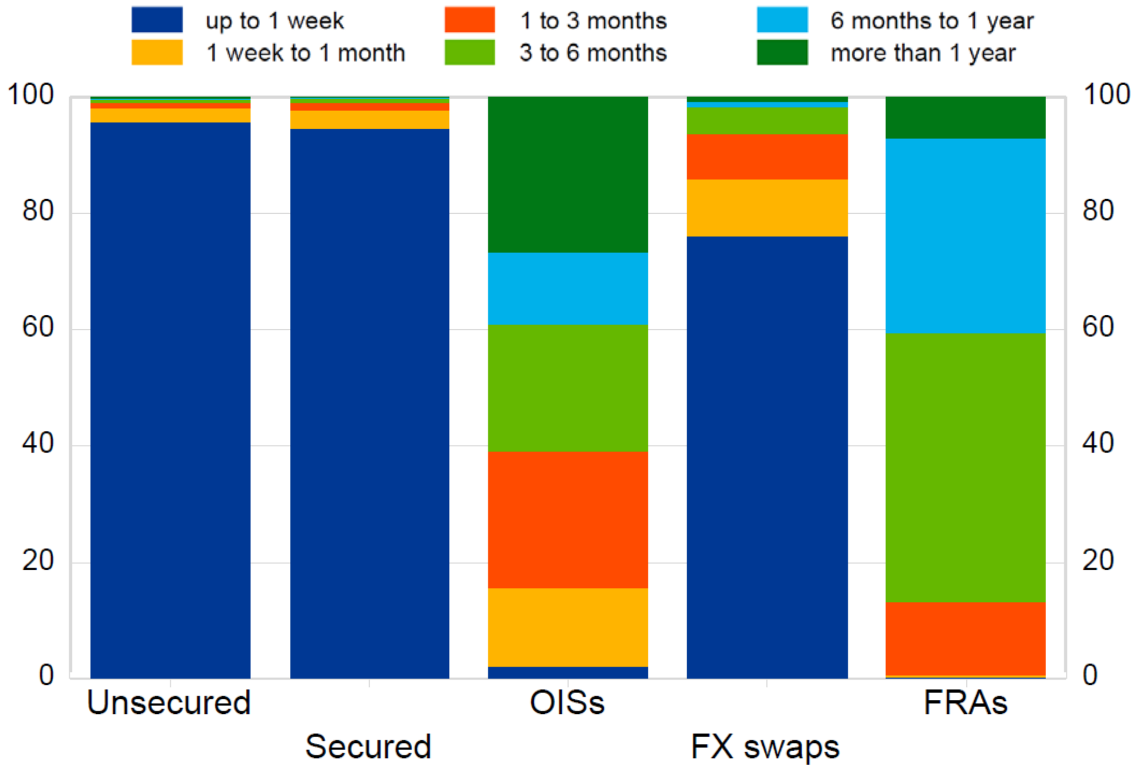
NOTE: Chose from the given options and select all that apply.

Money market instruments: Euro money market - Maturity breakdown

- **Short maturities make up the bulk of the market**

Maturity breakdown for various money market segments

(percentages of total)



Note: The secured segment consists of daily repurchase agreement transactions only (borrowing and lending) denominated in euro with a maturity of up to and including one year.

Source: Euro money market survey (2015)

What characterises an efficient money market?

What are measures of market efficiency?

Money market efficiency

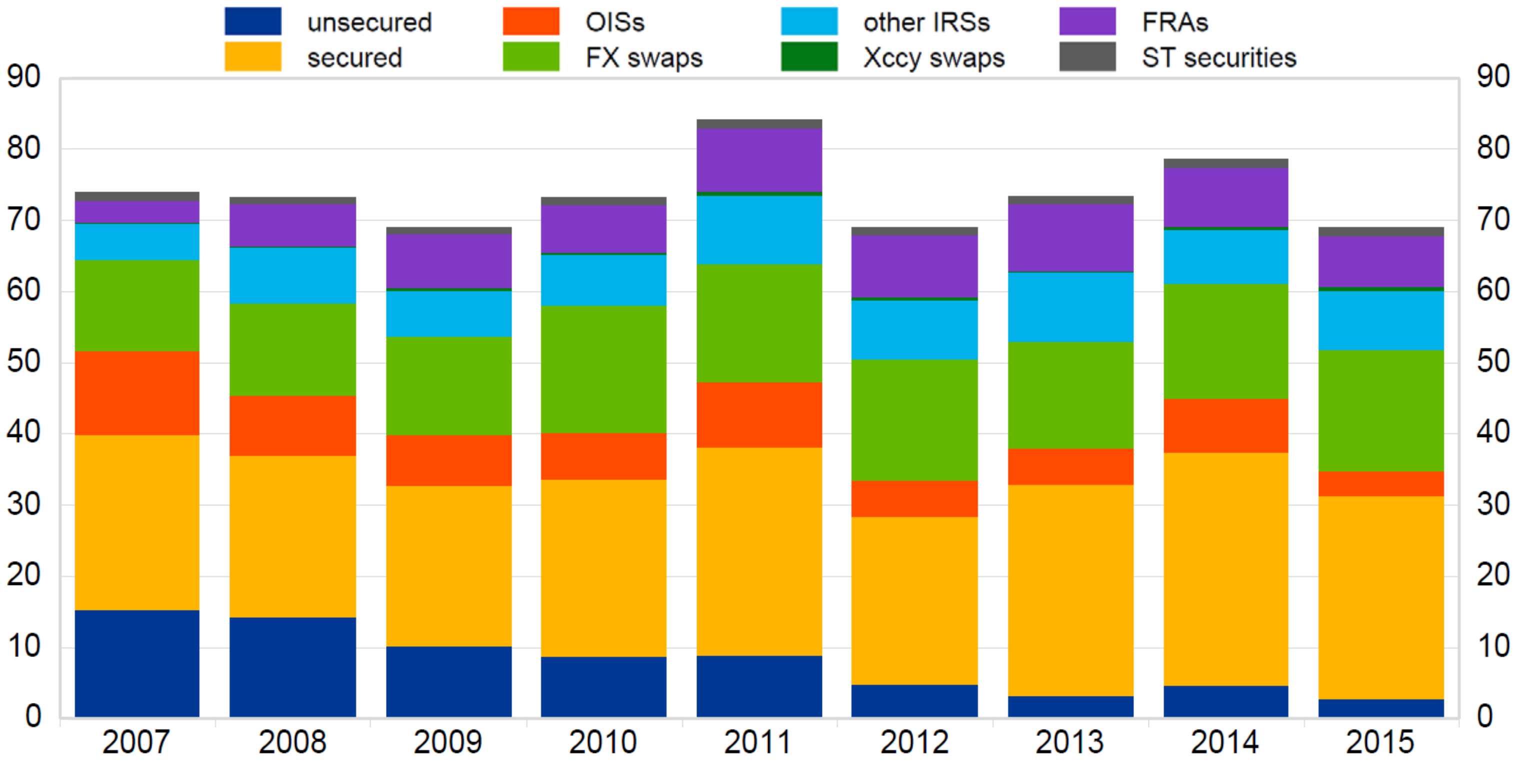
- **Money market efficiency is typically measured by indicators that are a reflection of the liquidity situation in the money market**
  - bid-ask spreads
  - volatility of interest rates
  - daily turnover
- **Generally speaking, a high daily turnover, narrow bid-ask spread and low volatility implies ceteris paribus a more efficient market**
- **Analysing volatility offers insights into the microstructure of money markets**
  - For instance, comparing the **volatility of interest rates at specific maturities** with the average level of volatility across the whole maturity spectrum may allow the CB to detect **atypical movements** in some segments of the money market, which, in turn, could be related to **imperfections in the market's structure** and might impinge on the effective transmission of the monetary policy impulse

Money market efficiency: Euro money market - Turnover

- **Turnover in specific instruments has evolved over time**
  - ... shedding light on the relative importance of the various money market segments
- **What explains the development of individual money market instruments over time?**

Cumulative quarterly turnover in the euro money market

(EUR trillion)



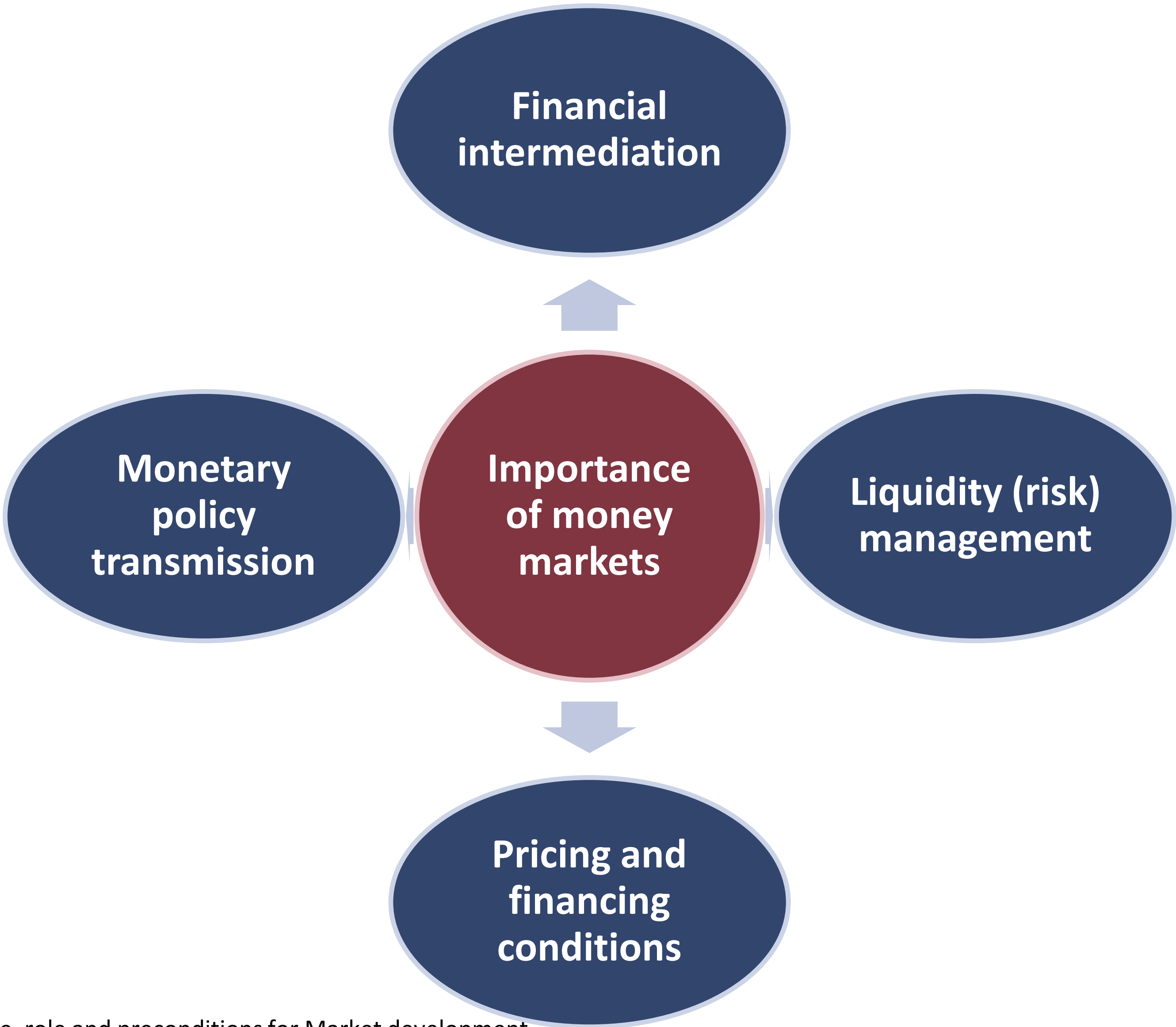
Note: The secured segment consists of daily repurchase agreement transactions only (borrowing and lending) denominated in euro with a maturity of up to and including one year.

Agenda

- Conceptual issues & money market structure
  - Definition and market participants
  - Money market instruments
- **Role of money markets: Why money markets are important**
- Preconditions for an efficient money market

Who needs money markets and why?

Role of money markets: Why money markets are important
Overview



Role of money markets: Why money markets are important
Financial intermediation

- **A deep and liquid (interbank) money market supports financial intermediation function of commercial banks, in particular, the maturity transformation**
  - Money markets improve the funding base which is a crucial prerequisite for maturity transformation
  - In emerging and developing economies the importance of money markets is more pronounced by the fact that most of the financial sector functions are served by commercial banks
- **In the absence of well-functioning money markets, banks may prefer to minimise the interest rate risk to which they expose themselves when performing maturity transformation by extending variable rate loans to borrowers only**
  - As a result, banks pass on the interest rate risk to borrowers thus creating potential risks for financial stability as interest rate increases can trigger large increase in NPLs as borrowers may become unable to service their debt at higher rates
- **In the absence of money markets, banks lack possibility to manage liquidity risk which can reduce their willingness to hold assets with longer maturities**
  - As a result bond market activity and bank lending can be impaired

Role of money markets: Why money markets are important
Liquidity (risk) management

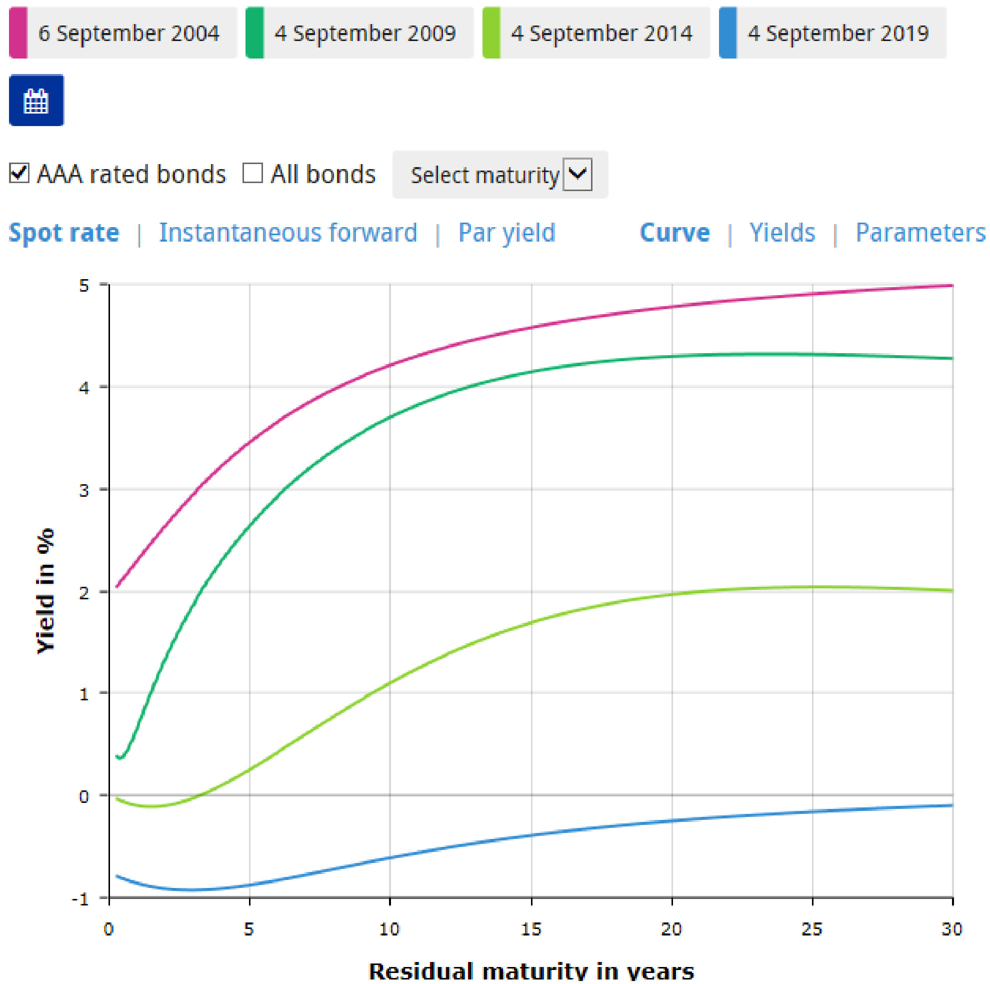
- **Banks use the money market to manage liquidity and to smooth out individual liquidity imbalances which may occur at any time as a result of various liquidity factors**
- **Absence of a functioning money market**,
  - Renders liquidity management more difficult for banks
  - May encourage hoarding of liquidity (→ example of Euro area money market)
  - Could force banks to process client transactions with multiday delays so as to find matching transactions within their own client base
  - Can hamper economic activity as bank intermediation is impaired
- **Money markets serve as medium for cash management for governments**
- **Money markets allow financial intermediaries to manage liquidity risk attached to bonds and other term instruments**
  - By lowering liquidity risk premiums they enable investors to hold larger portfolios of longer-term instruments and are therefore crucial to stimulate active bond markets.

Role of money markets: Why money markets are important
Pricing and financing conditions

- **(Interbank) money market rates represent the marginal costs of funding for banks and provide benchmarks for the financing conditions throughout the economy**
  - Developments in money markets affect the financing conditions faced by NFCs and households
- **Banks rely on money market rates in order to price longer term debt as long term interest rates are determined by**
  - the current level of short-term interest rates
  - expectations of future short-term interest rates
  - and risk perceptions (liquidity, credit risk and inflation)
- **In the absence of a functioning money market, banks have difficulty pricing longer term debt and may be reluctant to lend at longer maturities**

Role of money markets: Why money markets are important
Pricing and financing conditions: Yield curve

- **Money market rates**
  - form the short end of the yield curve
  - serve as a reference point (anchor) for longer term yields
- **Expectations of future money market rates guide longer term yields**

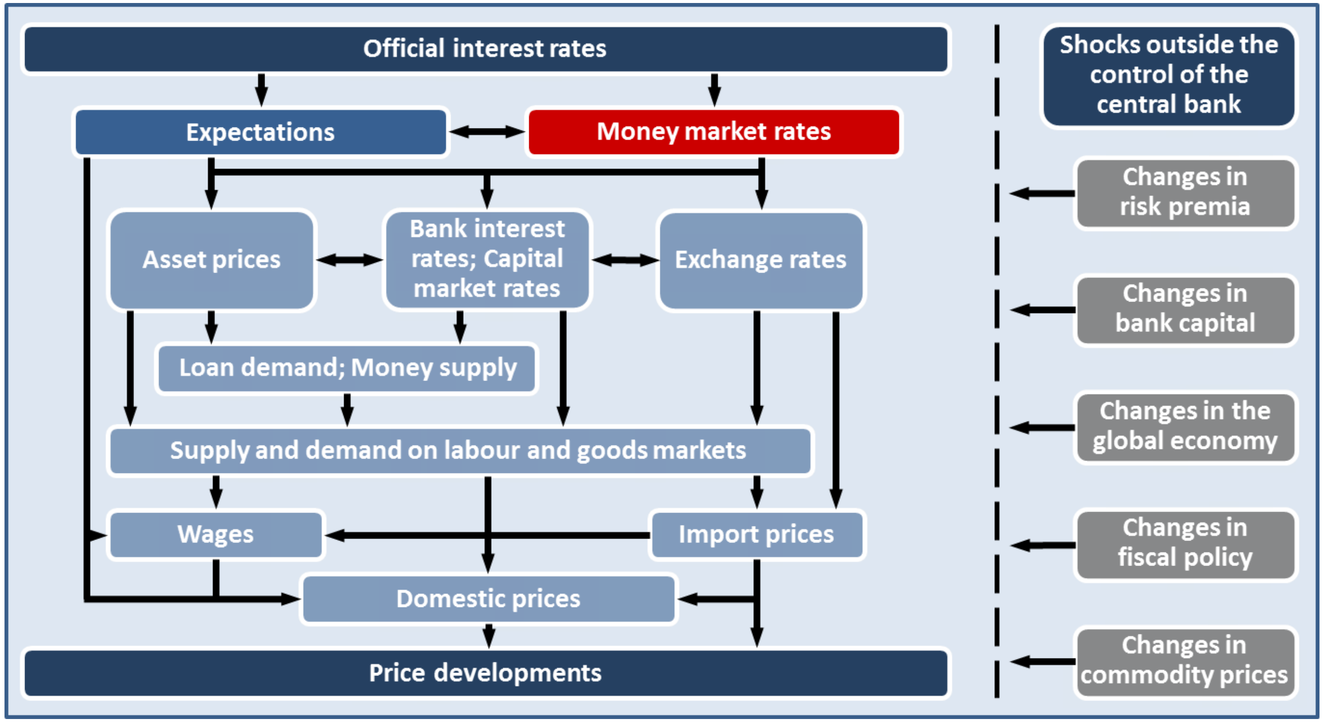


Role of money markets: Why money markets are important
Monetary policy transmission

- **Money markets are relevant for CBs as they form the starting point of monetary policy transmission: Changes in monetary policy affect the money market first**

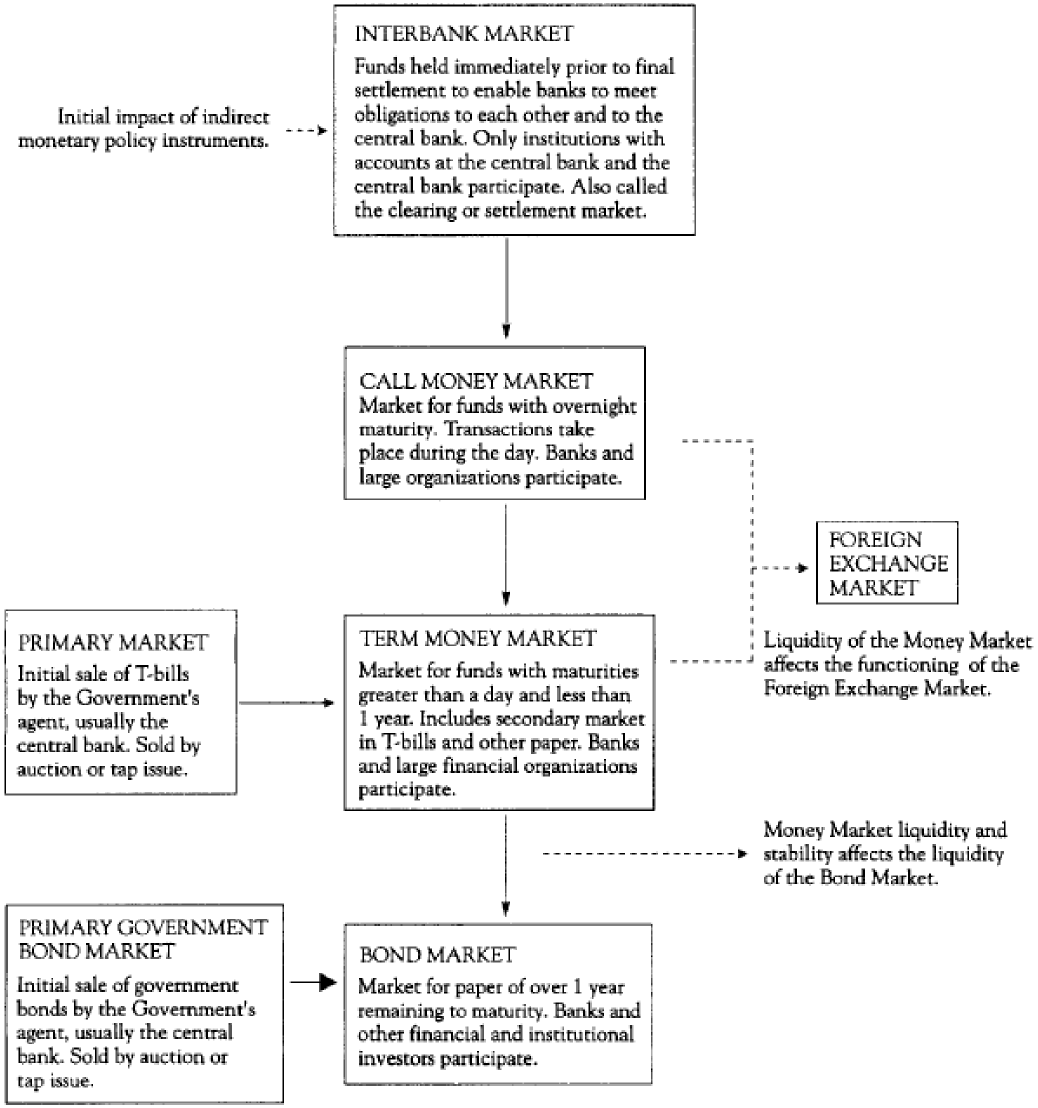
- **Money markets are of particular importance for CBs which implement monetary policy via an interest rate steering approach**

Chart: The transmission mechanism from interest rates to prices



Role of money markets: Why money markets are important
Monetary policy transmission: Links to other financial market segments

- **Money market segments are linked with other financial market segments in various ways**



Role of money markets: Why money markets are important
Monetary policy transmission (cont.)

- **Smooth functioning of money markets ensures that the impulse of monetary policy is transmitted along the yield curve, as long-term rates matter most for economic activity**
- **A CB can exert a dominant influence on money market conditions and money market interest rates: Given its monopoly over the creation of CB reserves, a CB can manage the level of CB reserves which serves as ultimate liquidity in the banking system the funding costs for banks**

Coevolution between CB actions and money market development

Central Bank
(Money Market as arena for action)

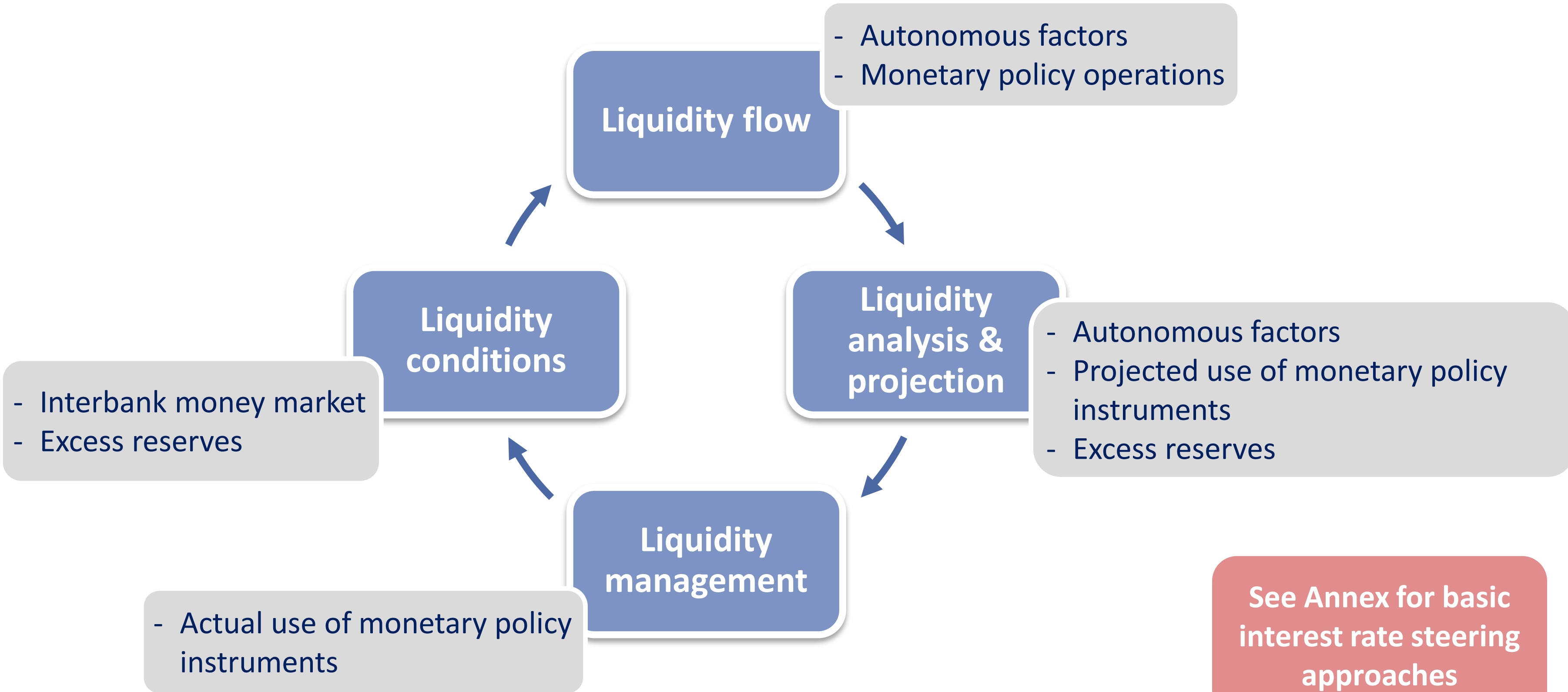
- Steers money market interest rates (as operational target) close to policy rates
- Is monopoly supplier of CB reserves

Money Markets
(Money Market as source of information)

- Transmits policy signal
- Provides crucial information for monetary policy strategy and monetary policy implementation

Role of money markets: Why money markets are important
Excursus: Liquidity analysis, liquidity management & interest rate steering

- **Money markets take center stage in liquidity analysis, liquidity management and the steering of interest rates by the CB**
  - Poor liquidity analysis and liquidity management by the CB undermines money market functioning
  - Sizeable system-wide liquidity surplus removes incentives to transact and need to manage liquidity



See Annex for basic interest rate steering approaches

Role of money markets: Why money markets are important

Monetary policy transmission: Monetary policy frameworks

REFLECTION

- **What is the role of the money market in different monetary policy frameworks? What is the role of the money market in the monetary policy framework of your CB?**

Table 1: Monetary policy frameworks

Monetary policy framework	Intermediate target	Operational Target	Tool-kit
Exchange rate targeting	exchange rate	interest rate/exchange rate	FX-transactions; O/N standing facilities; main refinancing or sterilization instrument; MRR (averaging)
Monetary targeting	monetary aggregate	reserve money	MRR (rate and averaging); main refinancing or sterilization instrument; fine-tuning operations OMOs
Enhanced monetary targeting	monetary aggregate	short term interest rates	MRR (rate and averaging); O/N standing facilities; main refinancing or sterilization instrument; fine-tuning operations OMOs
Inflation targeting lite	inflation forecast	short term interest rates	MRR (averaging); O/N standing facilities; main refinancing or sterilization instrument; fine-tuning operations; FX-transactions
Full-fledged inflation targeting	inflation forecast	short term interest rates	MRR (averaging); O/N standing facilities; main refinancing or sterilization instrument; fine-tuning operations;

Increasing role of money markets for monetary policy transmission

Importance of money markets: Overview of CB perspectives

Money markets matter also for financial stability

Function of money markets	… from a CB perspective
Help in managing liquidity of commercial banks e.g. caused by cash flow mismatches	→ crucial for monetary policy and financial stability
Help in reducing liquidity and interest rate risk of commercial banks e.g. by offering instruments to hedge against and speculate on short-term interest rate and FX risks	→ crucial for financial stability
Provide a source of funding for banks, and other economic agents and investment opportunities e.g. to meet payment and short-term financing needs or to profitably invest short-term	→ crucial for monetary policy
Facilitate pricing signals by setting the marginal cost of funding Developments in money markets affect the financing conditions faced by NFCs and households. Money market rates provide benchmark rates for the pricing of other financial contracts	→ crucial for monetary policy
Serve as starting point in the monetary policy transmission mechanism	→ crucial for monetary policy

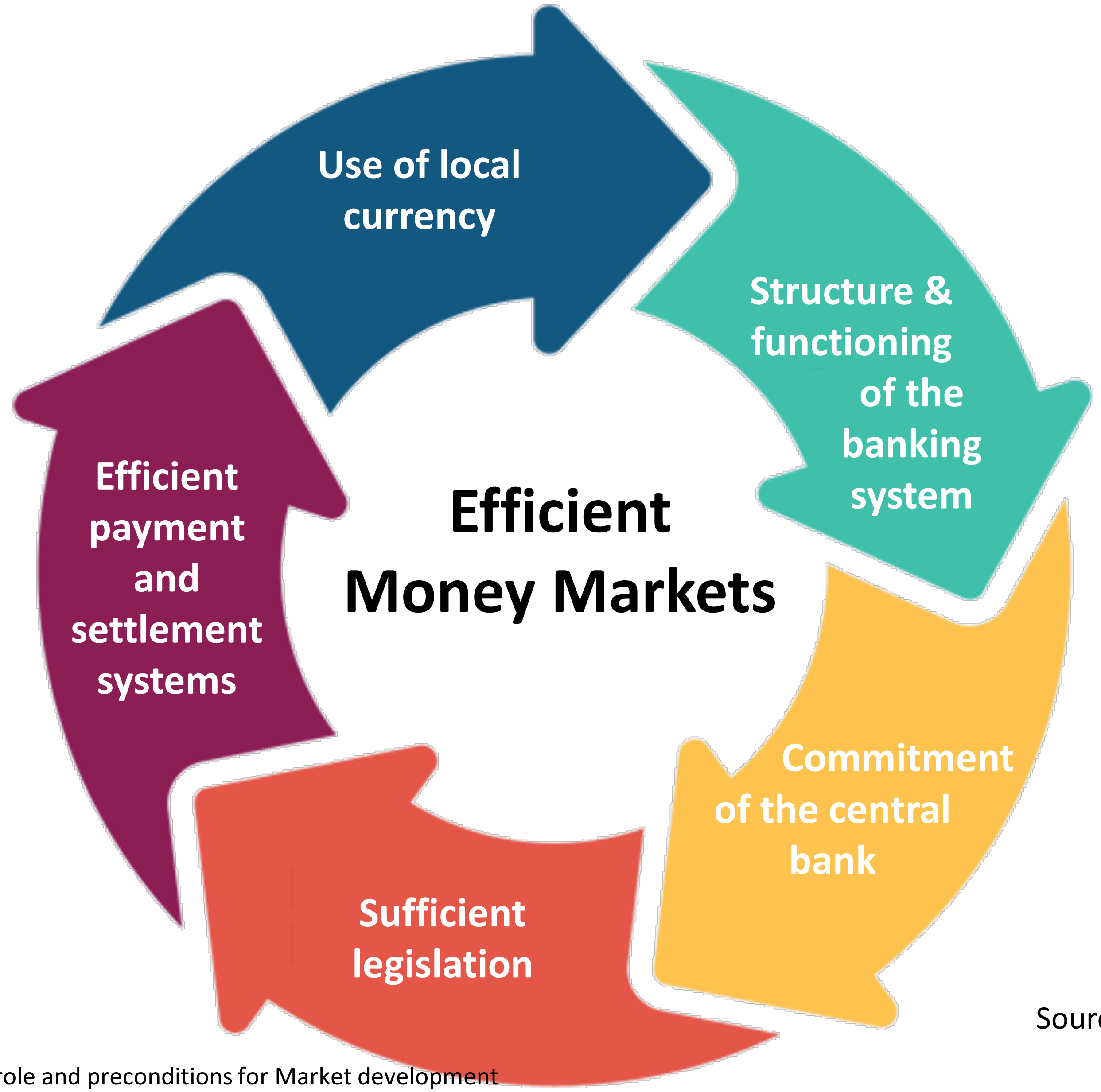
Agenda

- **Conceptual issues & money market structure**
  - Definition and market participants
  - Money market instruments
- **Role of money markets: Why money markets are important**
  - Financial intermediation
  - Managing liquidity
  - Pricing and financing conditions
  - Monetary policy transmission
- **Preconditions for an efficient money market**

Reflection

What are essential preconditions for efficient money market?

Preconditions for an efficient money market
Overview



Source: Vavra et al. (2016)

Preconditions for an efficient money market
Use of local currency

- **In principal, money markets can function well using both foreign and local currency**
- **However, it is beneficial to promote and develop money markets in local currency**
  - CB can only reliably perform its function as a monopoly supplier of CB reserves and lender of last resort in local currency, since its stock of foreign exchange reserves is limited
  - Monetary policy can be implemented in a more straight forward ways avoiding instruments which may undermine market development further, such as reserve requirements differentiated across currencies, and a set of controls on foreign capital flows
- **Local currency deposits serve as a reliable source of funding safeguarding the liquidity of commercial banks**
  - Helps commercial banks in overcoming maturity mismatches
  - Contributes to build trust among banks

Structure and functioning of the banking system

Money market development depends on the structure and functioning of the banking system

Competition within the banking sector

- normally leads to lower bid-ask spreads in money markets, improvements in quality of services through better and faster execution of orders, and a wider range of financial services

Ownership of banks

- **State ownership** often dampens commercial orientation
- **Foreign ownership** of banks can be accompanied by increased efficiency in the money markets as foreign banks bring expertise, corporate governance practices and new and innovative technology. Because of their recourse to their parent banks foreign owned local banks can tap external liquidity and funding sources

Diversity of banks business models

- Matters as retail banks tend to have liquidity surplus while wholesale banks fund themselves from the money market more often;
- If banks have similar liquidity needs and funding sources this reduces activity in the money market, because all participants are on one side of the trade
- If a liquidity is distributed evenly among banks with similar client profile, the only natural counterparty to their liquidity operations is the CB

Banking supervision facilitates the well-functioning of money markets by monitoring banks' business activity and maintaining trust among market participants

Preconditions for an efficient money market
Commitment of central bank

- **CBs can create incentives for banks to interact with each other by managing liquidity conditions that encourage interbank transactions and revising its monetary policy operational framework**
  - Lowering the frequency of monetary policy operations
  - Allowing reserve averaging (which supports the stabilization of money market interest rates)
- **Further measures supporting commitment to develop money market**
  - Taking part in developing a secondary market for government securities (e.g. market making) that can provide collateral for money market transactions
  - Promoting standards, practices, codes of conduct and contractual frameworks such as the Global Master Repurchase Agreement
  - Establishing market infrastructures such as trading platforms
  - Assisting the establishment of **money market reference rates** serving as benchmarks

Preconditions for an efficient money market
Commitment of central bank: Monetary policy frameworks

- **By steering short-term rates and giving guidance for (expected) future short term rates CBs can promote stable money market rates - and thus stable funding conditions**
  - Pass through of money market rates to long-term rates can be strengthened further by promoting price stability,
  - CBs effectively reduce inflation risk and thus volatility in funding conditions as long term interest rates not only reflect investors' assumptions about future (short term) interest rates but also include a risk premia (rp) associated with long-term investment, in particular inflation risk as well as credit risk (→ Liquidity premium theory)

[…] the development of resilient and well-functioning money markets is deeply intertwined with the development of a monetary policy framework based on a flexible exchange rate and a pursuit of low and stable inflation

[…] reforms focused solely on the money market mechanics will have only limited chances of success, if not accompanied by sustained efforts to achieve low and stable inflation using a predictable interest rate policy and a relatively flexible exchange rate.

Source: Vavra et al. (2016)

Preconditions for an efficient money market
Sufficient legislation

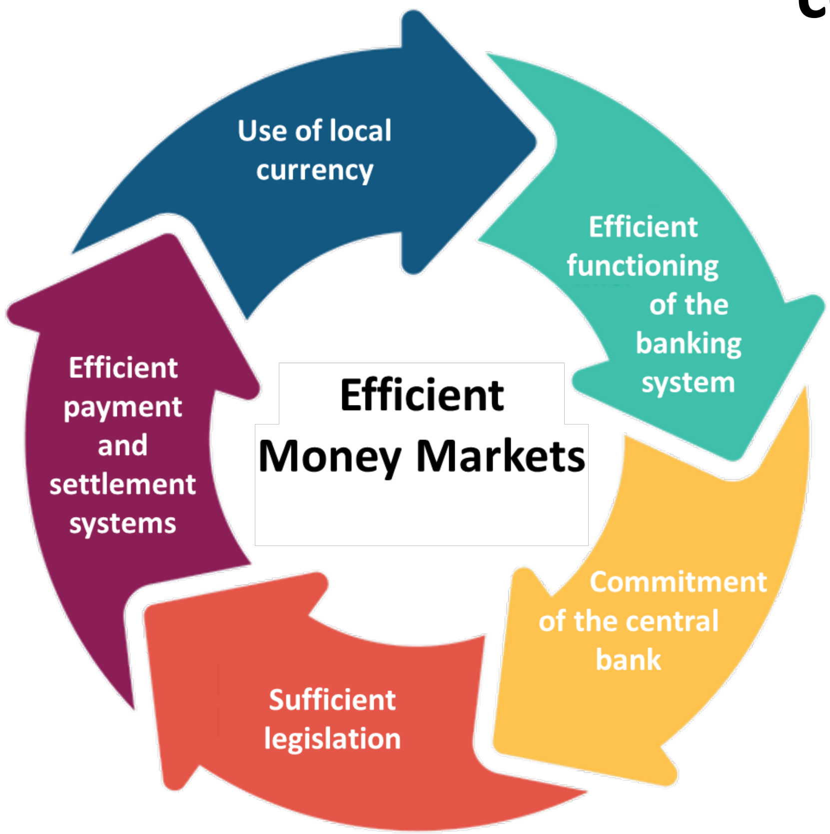
- **Smooth money market functioning requires specific legislation in various areas which aim to reduce risks and uncertainty and to build trust among money market participants**
  - Bankruptcy procedures
  - Finality of payment and settlement
  - Status and use of collateral
- **Abolish legal constrains for deposits, interest rates and lending**
- **Tax law definingthe treatment of money market activities, including capital gains, (interest) income, and inflation and exchange rate differentials**
- **Reporting requirements promoting greater transparency of money market activities and the compilation of indexes of money market activity and rates can spur the development of money markets**
  - E.g. European Market Infrastructure Regulation (EMIR) aims to make OTC derivatives trading more transparent and secure by requesting standardized derivatives being settled through central counterparties and by reporting all derivative contracts/transactions to trade repositories thereby reducing settlement risks and easing market disruption in the event of counterparty default

Preconditions for an efficient money market
Efficient payment and settlement systems

- **An efficient payment system infrastructure is indispensable to the efficient functioning of money & capital markets**
  - A key function of the payment system is to insure the finality of settlements, so that transactions made over payment networks will be complete and not subject to reversal even if the parties to the transaction go bankrupt or fail after settlement
- **Real time gross settlement (RTGS) systems provide greater assurance of payment finality and uninterrupted financial market operation without netting debits with credits**
  - The price of lower settlement risk is a larger need for liquidity, which stimulates money market activity
- **Oversight of payment and settlement systems (typically done by the CB promote safety and efficiency monitoring existing and planned systems, assessing them against these objectives and, where necessary, inducing change**

Reflection

Are preconditions for an efficient money market met in <u>your</u> country?



- Is local currency mainly used?
- Is the banking system efficient (competition and diversity within the banking sector)?
- Does the CB create incentives for banks to interact?
- Does specific legislation ensure smooth money market functioning?
- Are there well-functioning payment and settlement systems (preferably RTGS)?

Reflection

Which further aspects do you consider as relevant precondition for an efficient money market?

Key takeaways

- **The money market is a financial market segment for short-term maturities**
- **Money markets are the cornerstone of an efficient system of market-based financial intermediation**
  - Allow to cover short-term liquidity needs
  - Promote the development of government and private sector bond markets
  - Contribute to a smooth transmission of monetary policy
- **A growing number of different issuers, counterparties and types of instruments traded are an indicator of the development of the money market**
- **Development of money markets depends on various preconditions and requires a range of policies that create incentives for market activity**
  - …in particular for banks as key financial intermediary, to actively manage their liquidity risk
  - CB operating procedures greatly influence banks‘ incentives to use the money market

The money and interbank market
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ANNEX

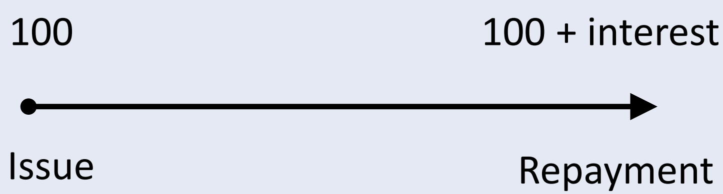
Money market structure

Money market instruments: Coupon vs discount instruments

Coupon instruments

- Issued with an interest rate (coupon) at face value
- At maturity, notional amount and interest are paid back

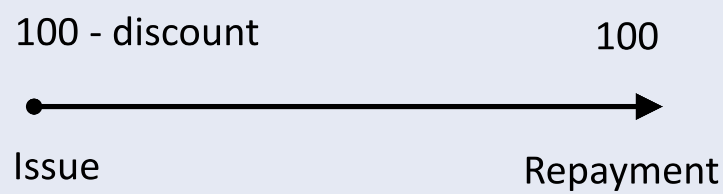
Examples: Interbank deposits, CDs, Repos



Discount instruments

- Issued with a discount from the notional value
- At maturity, holder receives notional amount
- Difference between issuing price and repayment constitutes interest

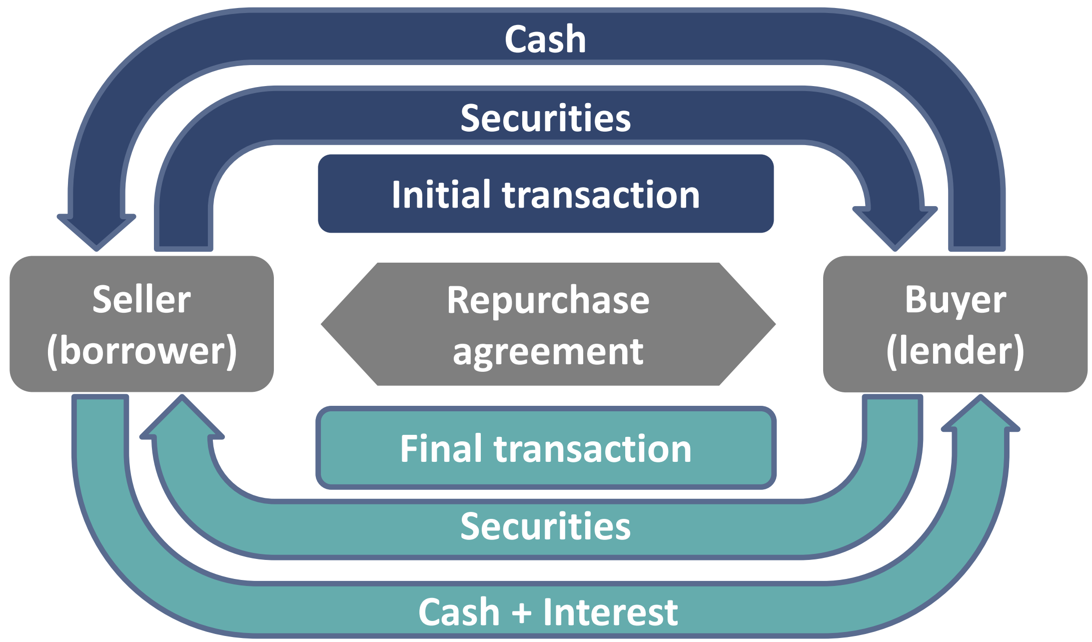
Examples: Commercial papers (CPs), T-Bills, Bill of exchange



Money market instruments: Repurchase agreement (Repo)

- **Agreement in which the seller sells securities (referred to as "collateral") at a given price, coupled with an agreement to repurchase the securities at a pre-specified price at a later point in time**
  - Buyer becomes owner of the collateral and can reuse the collateral, i.e. the collateral is not pledged
- **Distinction: Cash-driven vs. collateral-driven repo (general and special collateral)**
- **Further defining features of repos**
  - Repurchase of equivalent securities.
  - Overcollateralization (haircut).
  - Variation margin is required and adds operational burden.

Visualisation of cash flows



Money market instruments: Repurchase agreement (Repo)

- **Global Master Repurchase Agreement as standardized contract**
  - jointly developed by the International Capital Markets Association (ICMA, Europe) and the Securities Industry and Financial Markets Association (SIFMA, USA).
- **Function of master agreement is two-fold**
  - "To facilitate trading by having counterparties **agree as many general terms and conditions as possible, in advance** of executing individual transactions."
  - "To set out clearly the **rights and obligations of the counterparties during the life** of the transaction […] and **in the event of a problem arising**."
- **Weblink**
  - https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/legal-documentation/global-master-repurchase-agreement-gmra/

Money market instruments: Repurchase agreement (Repo) – Economic functions

- **Providing a low-risk option for cash investment**
  - Reverse repos are used heavily by money market funds, asset managers, central counterparties and other institutional investors or corporates as a means of investing their cash
- **Transformation of collateral**
  - Obtain specific securities or cash to be used in other transactions
- **Supporting cash market efficiency and liquidity**
  - Arbitrageurs which are important for price formation extensively use repos to raise cash.
- **Facilitating hedging of risk**
  - Funding of hedging
- **Enabling investors to monetize liquid assets**
  - Under stress repos provide a means to raise cash without liquidating assets

Role of money markets: Why money markets are important
Excursus: The link between short term and long term rates

- **Long-term interest rates are a geometric average of a given level of short-term interest rates today, expected future short-term interest rates (expectations theory) plus a premium which is always positive to cover for risks inherent in longer term investment**
  - Underlying assumptions: Return of single long term investment should be equal to a sequence of short term investments

$$(1+i_{LT})^n = rp_n + (1+i_{ST}^{period\,0})(1+i_{ST}^{period\,1})\ldots(1+i_{ST}^{period\,n})$$

- **Changes in the current level of short term interest rates and expectations of rising (falling) short-term interest rates imply an increase (decline) of long-term rates**
  Future rates are unbiased estimates of forthcoming spot rates which reflect investors' expectations of future short term interest rates

Preconditions for an efficient money market
Excursus: Basics of interest rate steering

- **Demand for CB reserves and money market rates are inversely related**

- **Demand for CB reserves is determined by various factors**
  - **Required reserves** set by central bank, i.e. banks are required to hold a certain amount of reserves
  - **Settlement requirements** for interbank transactions settled in central bank reserves
  - **Other liquidity needs**, e.g. as part of liquid asset pool and to meet cash demand
  - Note: Banks do not (cannot) lend out CB reserves to their customers. Technically, they do not need CB reserves to lend as they create a deposit liability on their balance sheet which funds the loan

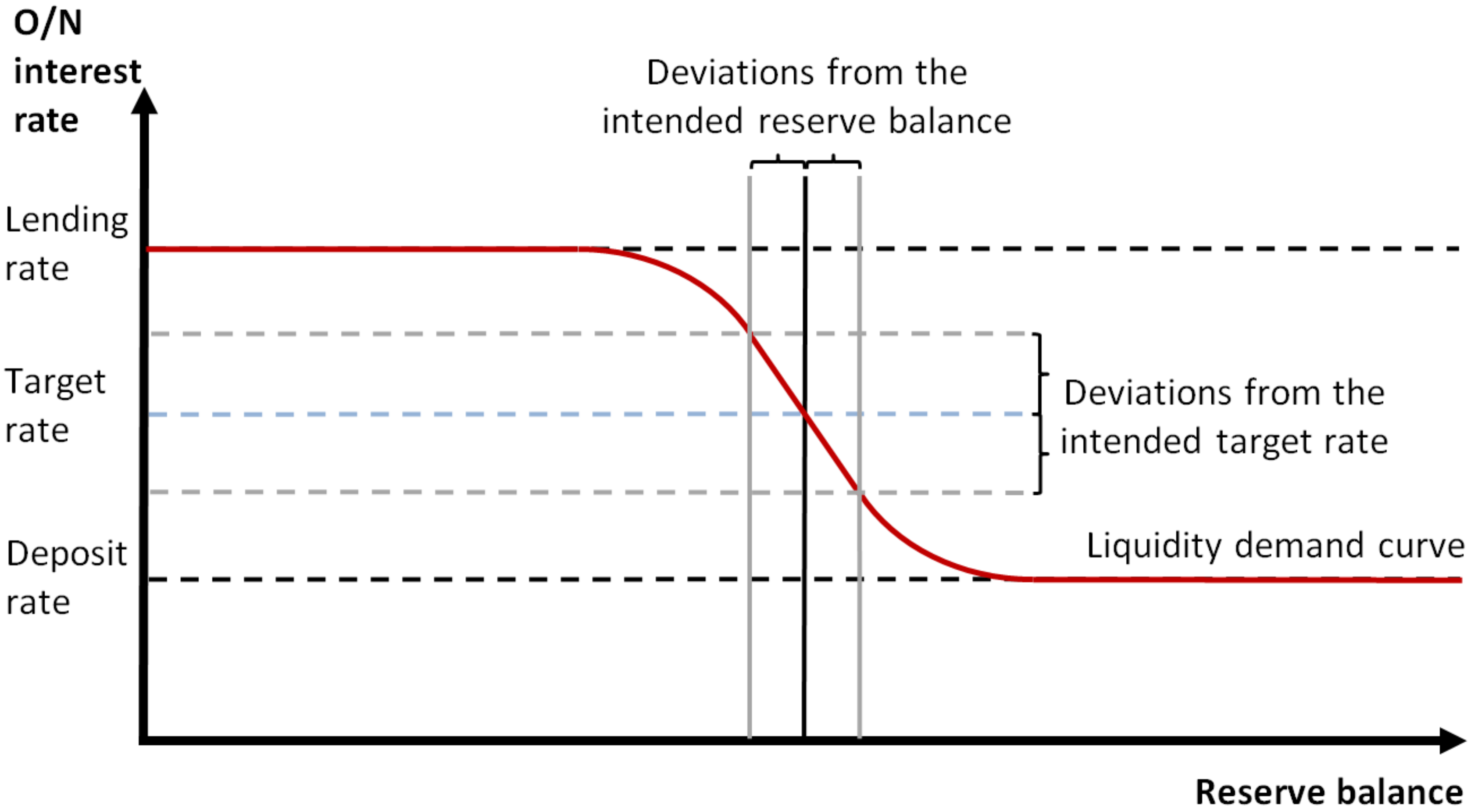
- **A CB (usually) acts as monopoly supplier of CB reserves and provides whatever amount of reserves the banking system demands**

- **CBs manage the level of liquidity by use of monetary policy instruments which include direct intervention in the money market via open market operations**

See: Deutsche Bundesbank (2017): The role of banks, non-banks and the central bank in the money creation process, in: Deutsche Bundesbank Monthly Report April 2017.

Excursus: Steering an operational target rate

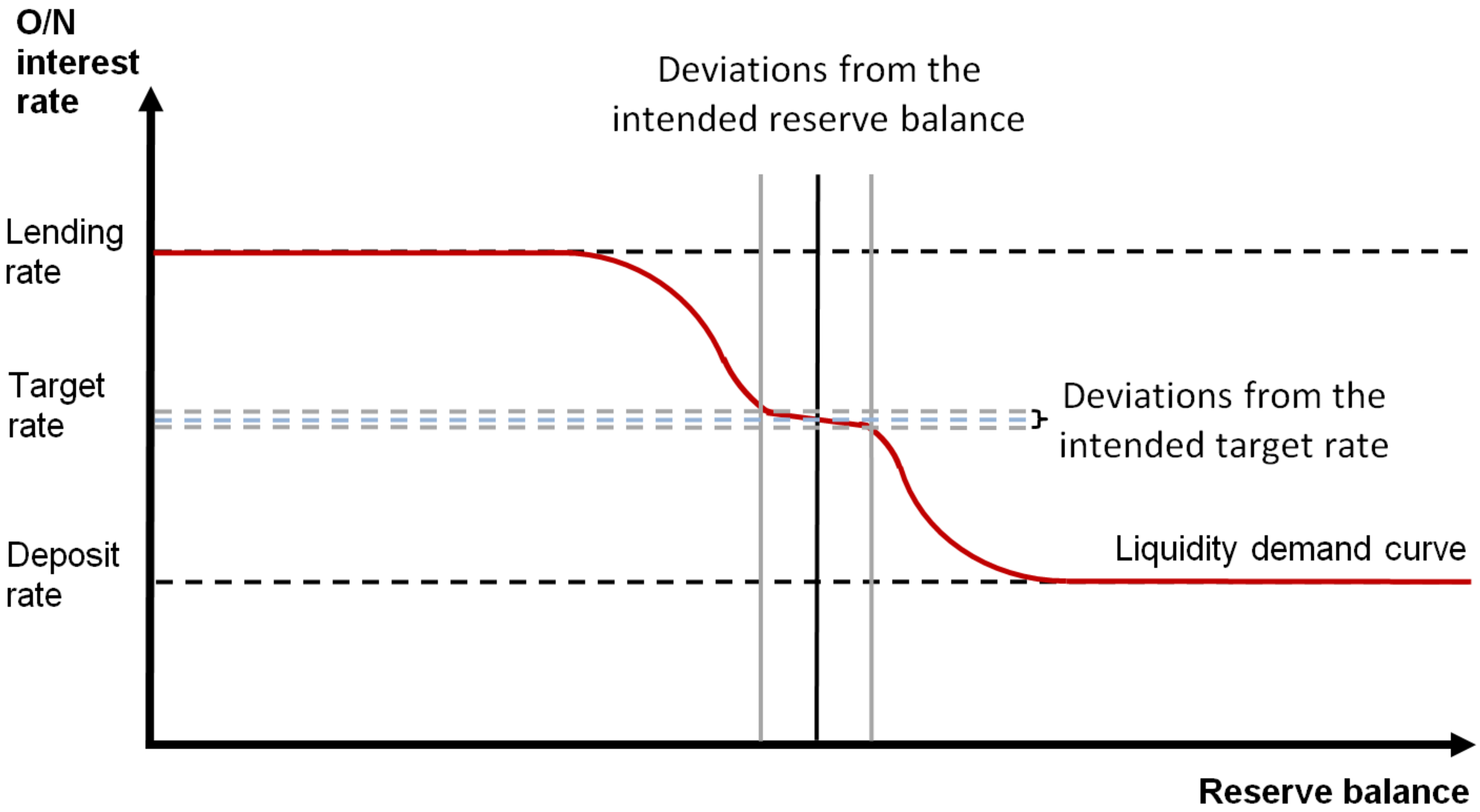
Chart: Steering an operational target rate in a corridor system



Preconditions for an efficient money market

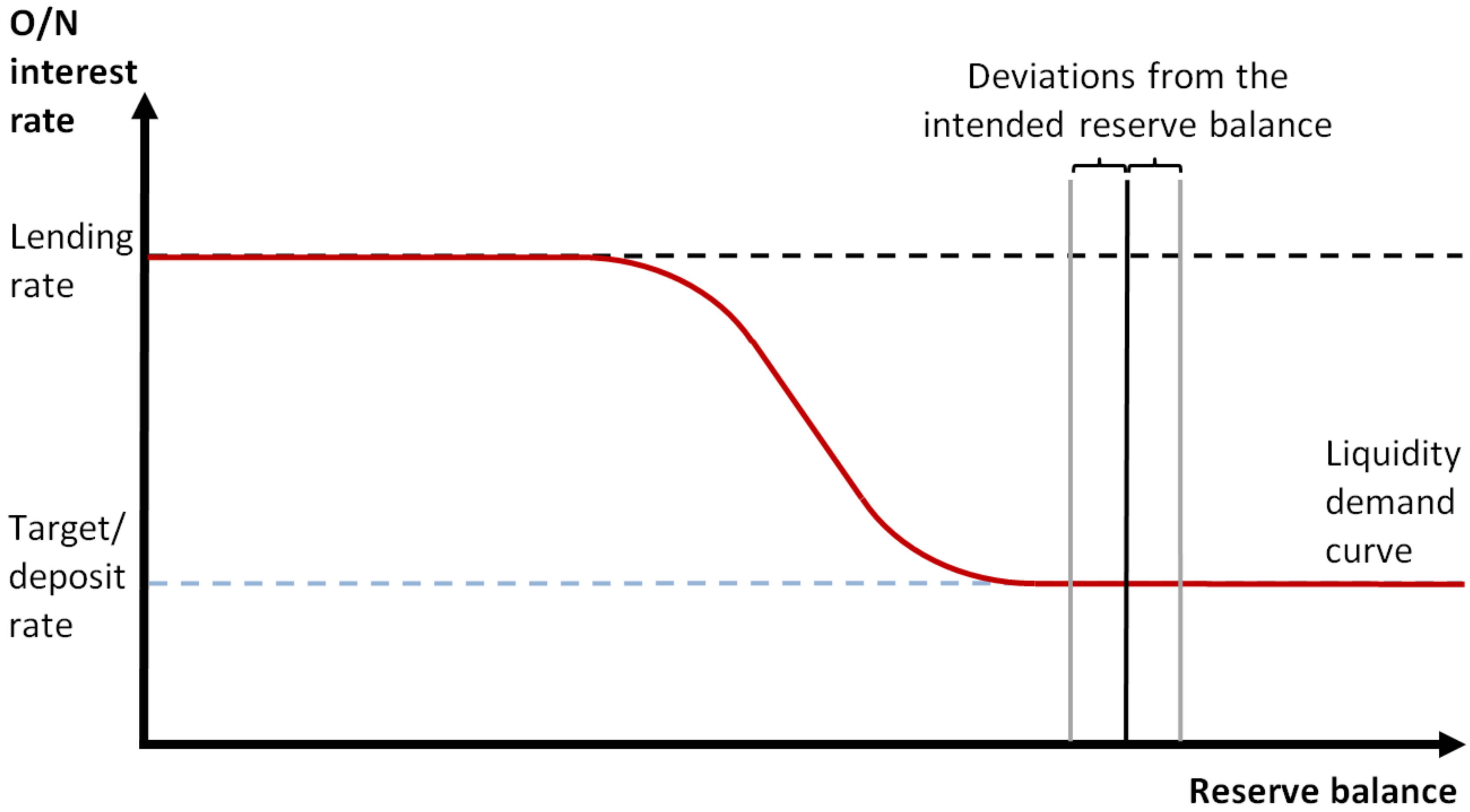
Excursus: Steering an operational target rate

Chart: Steering an operational target rate in a <u>corridor</u> system with a mechanism that assists the stabilisation of money market rates (e.g. reserve requirements with averaging)



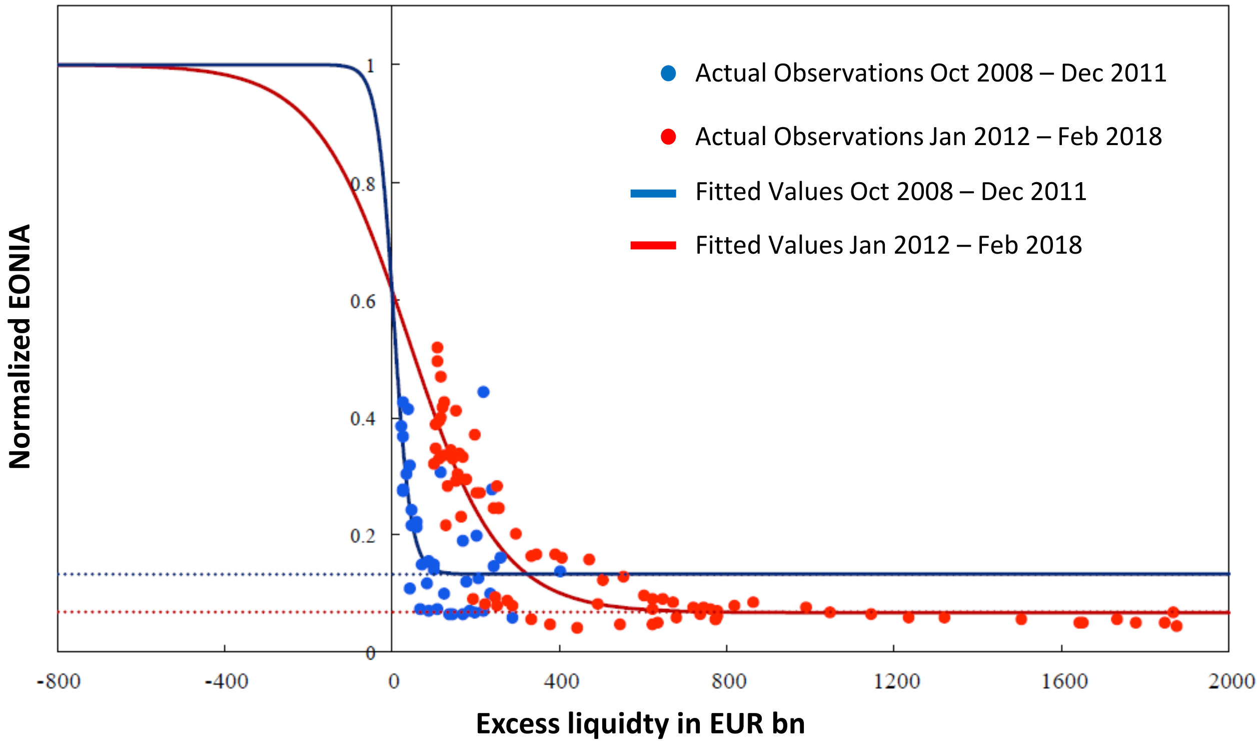
Preconditions for an efficient money market
Excursus: Steering an operational target rate

Chart: Steering an operational target rate in a floor system



Preconditions for an efficient money market
Excursus: Steering an operational target rate

Chart: Steering an operational target rate in a floor system – the relationship between short-term interest rates and excess liquidity, estimation of a logistic function according to Veyrune et al. (2018)



Note: Excess liquidity at the end of the maintenance period. The EONIA maintenance period average is normalized in a 0 to 1 corridor, representing the spread between the deposit facility rate (0) and the lending facility rate (1).

- Assumption: the relationship between excess liquidity and short-term interest rates in a symmetric interest rate corridor could be modeled as a bivariate logistic function, which is defined in such a way that short-term rates converge to the top of the interest rate corridor when excess liquidity is increasingly negative and vice versa.
- The estimations might help to identify conditions in which short-term rates become unanchored, that is, they move away from the policy rates and become more volatile within the interest rate corridor defined by the interest rates of the central bank's standing facilities.

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