The euro short-term rate (€STR)

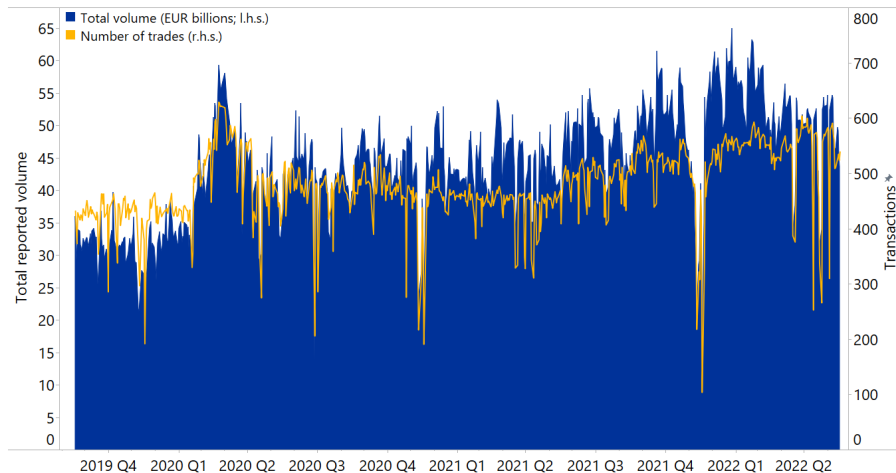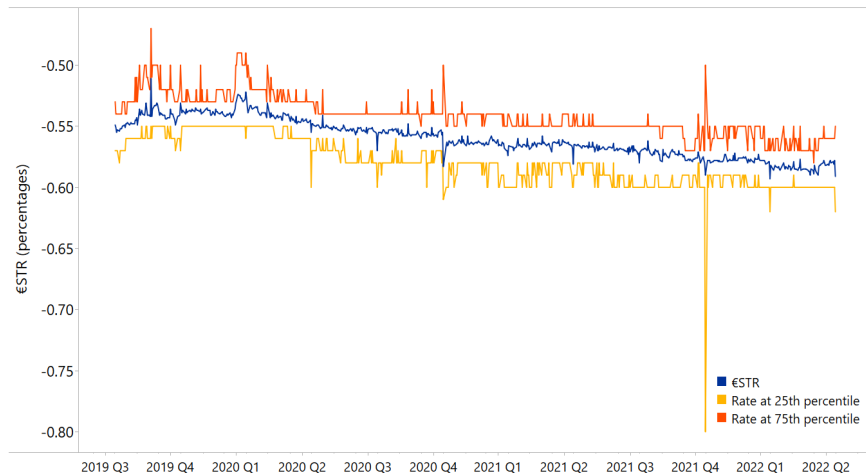## The new role of central bank statistics in financial markets

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Introduction and historical background

- Following the global financial crisis, **granular data collections and micro-databases** became increasingly relevant to produce statistics and beyond

- In the context of the **reform of financial benchmarks,** the ECB decided in 2017 to develop the euro short-term rate (€STR) based on the Money Market Statistical Reporting (MMSR) data **already available** to the Eurosystem

- MMSR data were considered of **sufficient quality and timeliness** to serve the daily production of a reference rate

- The €STR has been published since **2 October 2019,** by the **ECB as administrator**, on every day on which the Eurosystem TARGET2 payment system is open

- Following a transition period, the €STR **successfully replaced the** euro overnight interest average **(EONIA)** as the overnight benchmark rate for the euro and it is the **fallback** in the euro interbank offered rate **(EURIBOR)** in case of future cessation

- Money market statistical reporting (**MMSR**) and the euro short-term rate (**€STR**) are two noteworthy examples of how the ECB uses microdata for **market surveillance** and other purposes.

€STR (1/2)

- The €STR reflects the **wholesale** euro **unsecured overnight borrowing** costs of euro area banks

- It is exclusively based on **borrowing** transactions by MMSR reporters **with financial counterparties** on **fixed rate unsecured overnight deposits** denominated in **euro**, **over €1 million**

- It is calculated as a **volume-weighted trimmed mean** of the relevant transactions, removing the top and bottom 25% rates in terms of volume before computing the mean
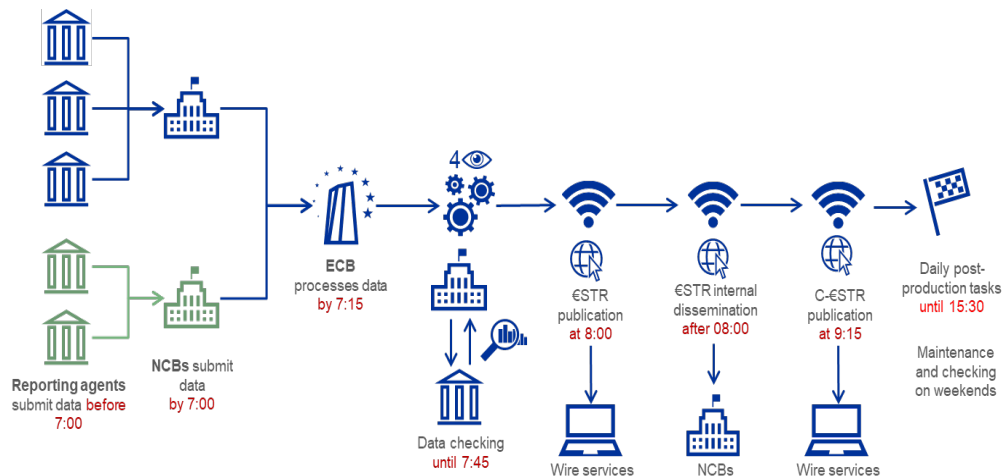
€STR (2/2)

- Figures published daily **in addition to the rate**
  - ➤ Business **volume**
  - ➤ **Number** of €STR-eligible **transactions**
  - ➤ **Number of banks** reporting €STR-eligible transactions
  - ➤ Share in the total volume of the **largest 5 contributors**
  - ➤ Rate at the **25th and 75th percentile** as indicators on the dispersion of the data
  - ➤ **Publication type** (standard or republication)
  - ➤ **Calculation method** (normal or contingency)
  - ➤ **Compounded €STR average rates and compounded index** - backward-looking calculated over tenors 1W,1M, 3M, 6M, 12M

€STR determination process

- €STR determination process as part of the statistical function provides **benefits** for the overall daily process and data management

- **Pre-existence** of the MMSR data and quality process **avoids double reporting** and provides a strong basis for the €STR with the reporting agents

- It **avoids submission solely for the purpose of compiling a benchmark**

- The use of actual transactions and automatic calculation **avoids expert judgement**

- The data quality management process is complemented by the overall **statistical non-compliance framework** to ensure **compliance** with the **minimum standards for the reporting of MMSR data**

€STR challenges - Governance

- The ECB, as a central bank, is not in the scope of the IOSCO Principles, nor subject to the EU Benchmark Regulation. Nevertheless, the €STR is **in line with international best practice for the provision of financial benchmarks**, in particular with the IOSCO Principles

- **EU and ECB regulations** provide the legal foundation for the MMSR data, establishing the daily reporting obligations including the scope and timeliness of the data

- €STR is **specifically governed** by the ECB **€STR Guideline**, including the **ECB's responsibility** for the **administration** and **oversight** of the €STR and the tasks and responsibilities of euro area national central banks (NCBs)

- Internal Eurosystem rules complement the Guideline by specifying the required high criticality of the IT systems as well as detailing the operational tasks to be performed in the €STR calculation

- The €STR guideline establishes the €STR **Oversight Committee** which reviews, challenges and reports on all aspects of the determination process

- The €STR governance framework ensures **consistency** with the €STR **methodology** and policies and also guarantees that **no expert judgement** is involved in the €STR

€STR challenges - Methodology

- The method of calculation of the €STR is defined in the published **€STR methodology and policies**. The €STR methodology was developed by the ECB's **Directorate General Market Operations**.

- To align the definition and features of new rate with the needs of users, two **public consultations** were conducted to define the scope and key technical/operational parameters.

- The methodology also includes a **contingency formula** for calculating the rate in case of insufficient underlying data.

    This could include cases where:

    I.   there is a lack of data

    II.   there is a possible concentration of inputs or

    III.   systems break down

- In case the €STR is calculated based on the contingency formula it represents a weighted average of the previous day's €STR and the rate resulting from using the data for the current day.

- **Annual methodology reviews** are conducted

€STR challenges – Determination process and audit

- The €STR IT system with **high criticality standards** to ensure a reliable determination and publication
- Internal procedures were **extensively tested** in the 9-months shadow production period which anticipated the €STR go-live
- The ECB daily shift for the rate production starts at 06:30 CET on every TARGET2 business day
- Additional IT **system testing** is regularly performed on **weekends** to **minimize** the risk of **incidents**
- The production and publication of the €STR is **highly automated** and does not require the use of discretion, **minimizing** the risk of **errors** during the process
- The €STR operators monitor the process, **interact** with reporting agents as part of the data quality process, perform manual tasks in case automatic procedures fail and carry out a **final check** on the figures to be published
- Both **internal** and **external audits** are conducted in the context of the €STR
  - Internal exercise – in accordance with the ECB Audit Charter and the Audit charter for the ESCB and SSM
  - External exercise – to independently assess the overall framework used by the ECB as €STR administrator for compliance with the IOSCO principles

Conclusions[1]

- MMSR and €STR confidential statistical information is **widely used** by ECB DG-M and NCBs for

  - the **definition** and **implementation** of the euro area **monetary policy**
  - **monitoring** the monetary policy **transmission mechanism**
  - gathering info on market **expectations** for **future trajectory** of **policy rates**
  - **analytical work** supporting Eurosystem policies

- The €STR is determined **every morning** by the ECB on the basis of money market statistical data

- The €STR benefits from a number of operational advantages resulting on being fully based on **pre-existing statistical microdata**

- At the same time the €STR involves **particular requirements** and **challenges beyond classical statistical functions**, addressed through a dedicated legal act for €STR, a specific methodology, highly critical IT systems and internal and external audits

- The successful implementation of the €STR is an example of the **increasing relevance** of **statistical microdata** and of their **usage** beyond classical statistical functions and responsibilities

(1) The opinions contained in this presentation are the sole responsibility of the authors and may not reflect the views of the ECB