

Rates Revolution: €STR

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Executive summary

- **€STR starting on Tuesday, 1 October 2019**
 - Unsecured O/N wholesale borrowing transactions in EUR by 50 MMSR banks, 25% trimming
 - $\text{EONIA} = \text{€STR} + 8.5\text{bp}$
- **Publication**
 - One business day lag, **T+1**
 - €STR @ 8:00 CET, EONIA @ 9:15
 - Adapt your systems
- **€STR swap market**
 - All about €STR: EONIA swaps contain €STR exposure as well (this has been the case for a long time)
 - LCH will clear €STR swaps starting on **21 October**
- **€STR discounting**
 - CCPs expected to move to €STR collateral interest/discounting in **Q2 2020**, bilateral market to follow
 - Big Bang approach
 - Compensation payment on the switch date (?)
- **EONIA legacy contracts**
 - Fallback approach (“do nothing”)
 - Active transition (“restriking”)
- **Fixing levels, volatility, seasonality**
 - Pre-€STR about 5bp below the ECB Deposit Facility Rate
 - ECB forwards: tiering may lift €STR by 2-3bp
 - More stable than EONIA due to higher turnover, trimming mechanism
 - Compared to EONIA, inverted month-end effects
- **Future in O/N, nearly risk-free rates (RFRs)**
 - Authorities: derivatives liquidity will be O/N, OIS-based in the future
 - Cash products to follow: the first €STR floating-rate note already issued

Euro Short Term Rate €STR

	€STR	EONIA
Economics	Unsecured <u>borrowing</u>	Unsecured <u>lending</u>
Counterparties	Wholesale	Interbank
Contributors	50 banks under MMSR regulation	28 panel banks (voluntarily)
Administrator	European Central Bank (ECB)	European Money Markets Institute (EMMI)
Calculation	Volume-weighted mean, 25% trimming	Volume-weighted mean of panel banks' transactions
Average daily volume in 2019	EUR 37 billion (Pre-€STR)	EUR 2.4 billion
Publication lag	One business day	Not currently, 1BD starting in October
Bloomberg	ESTRON Index	EONIA Index
Note	First publication on 2 October at 8:00 CET	EONIA = €STR + 8.5bp in Oct, 9:15 CET, discontinued on 3 January 2022

EONIA vs €STR

EONIA

all unsecured O/N interbank lending (offer)
transactions by 28 panel

----- ECB Deposit Facility Rate -----

€STR

wholesale unsecured O/N borrowing (bid)
transactions by 50 MMSR banks, **25% trimming**

For further details on the €STR methodology, see the Appendix.

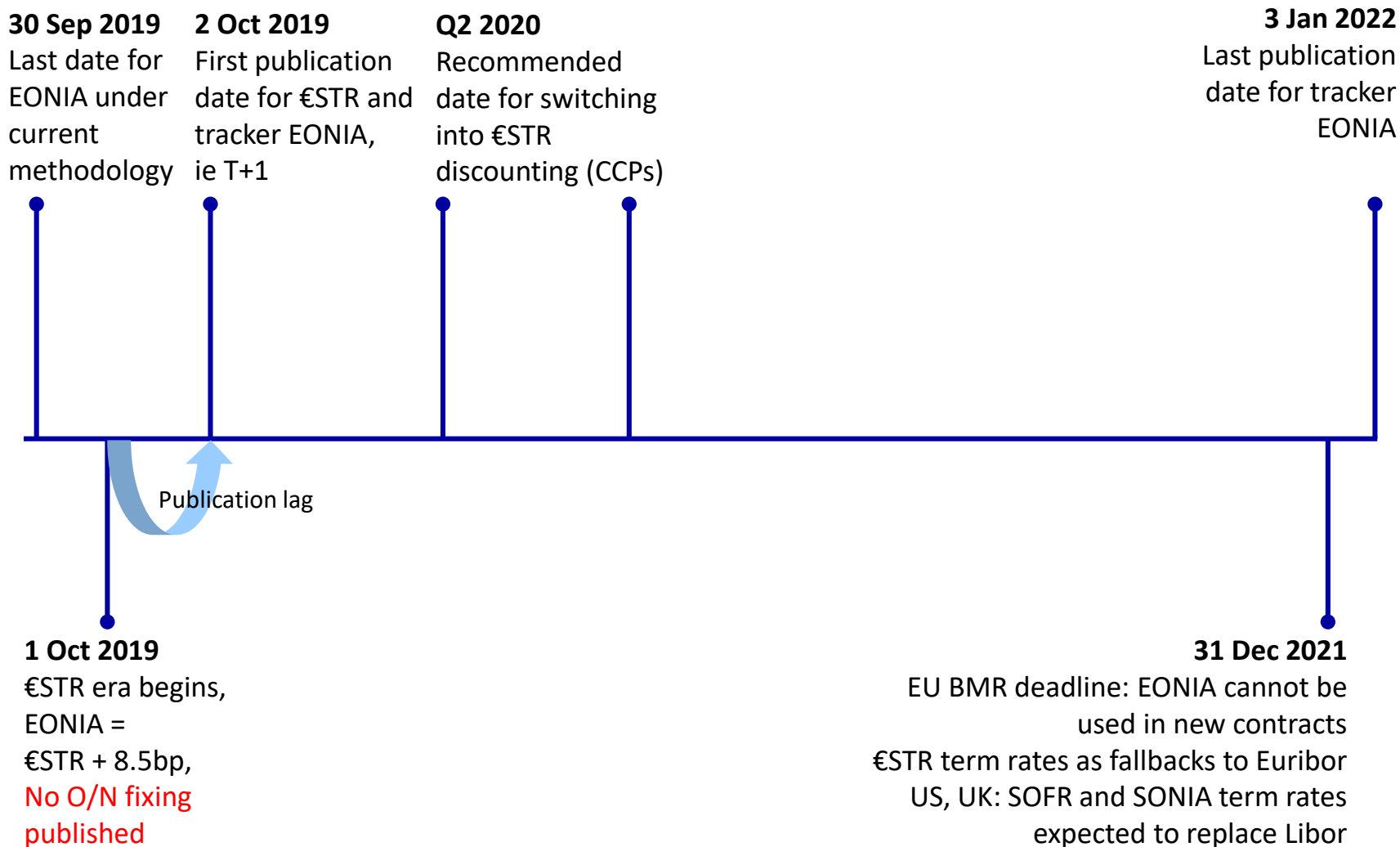
$$\text{EONIA} = \text{€STR} + 8.5\text{bp}$$

T + 1

€STR 8:00 CET

EONIA 9:15 CET

€STRification timeline



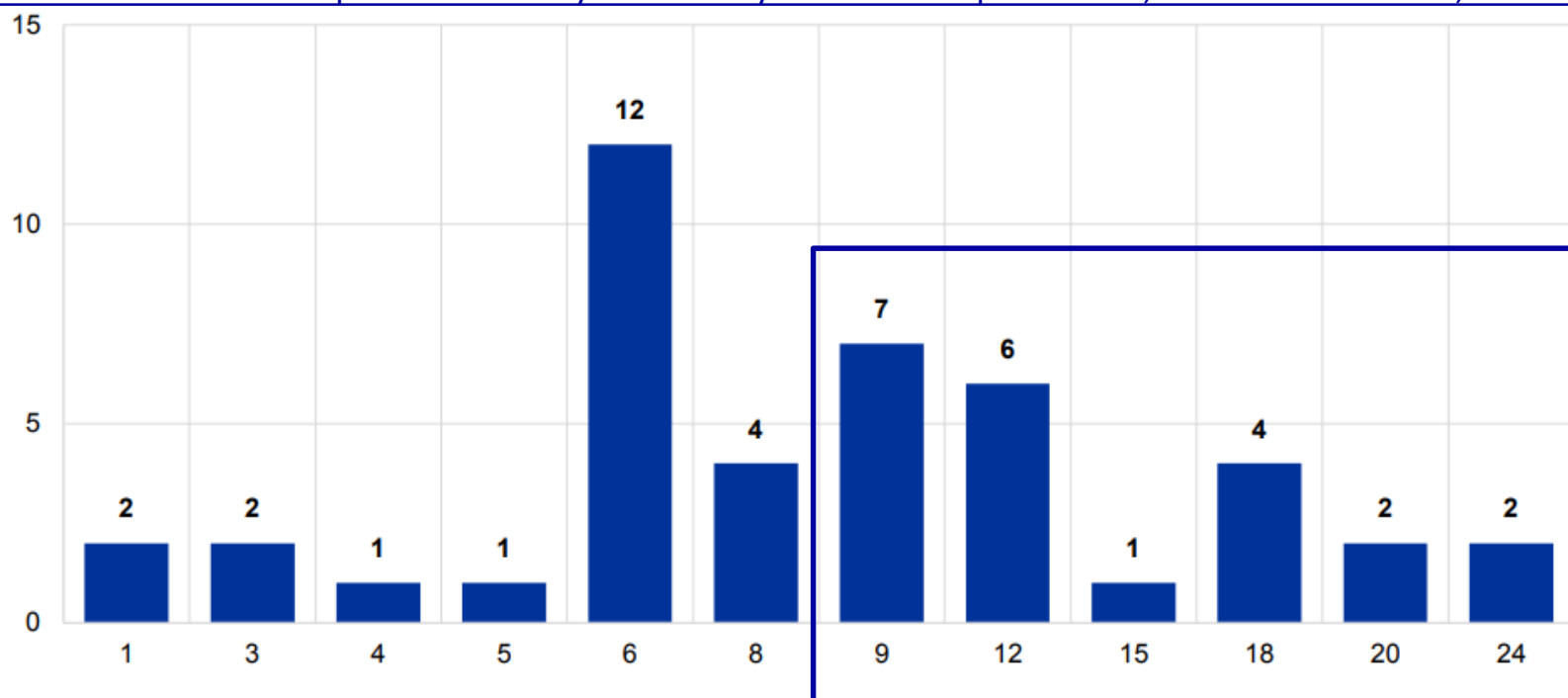
System challenge: Is everyone ready? Probably not.

1 October no O/N fixing published

2 October €STR @ 8:00 CET

EONIA @ 9:15 (instead of 19:00 CET on previous day)

Number of months required to make systems ready for €STR T+1 publication, consultation results, 1 Feb 2019



Source: ECB Secretariat to the working group on euro risk-free rates.

Notes: The sum of the number of responses does not equal the total number of responses received as some respondents did not reply to this question.

Recommendations and changes in market practices

EONIA-related and money market transactions: T+2 settlement (Asian accounts)

Cleared derivatives: Last available fixing as price alignment interest, T+1 settlement

Swaptions with physical settlement: €STR discounting would trigger re-evaluation and compensation measures

Investment funds with EONIA as benchmark: amendments to calculation formulas, prospectus updates

Interest rate curve models: “shifted” curves

Etc etc



Report by the working group on euro risk-free rates

On the impact of the transition from EONIA to the €STR on cash and derivatives products

August 2019

Note: EONIA ticker and identification codes to remain unchanged, despite the change in the determination methodology

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€STR Tickers & Data

The following is a sample of Bloomberg-supported €STR tickers.

€STR Curve

To display the €STR OIS curve, enter **ICVS 514 <GO>** in the command line. The €STR OIS curve can be used throughout Bloomberg Terminal® functions, such as SWPM <GO>, MARS <GO>, and enterprise risk solutions. For more information on Bloomberg's enterprise risk solutions, go to RISK <GO>.

Ticker	Description
ESTRON Index	Volume-weighted trimmed mean rate
ESTRVOL Index	Total nominal amount of transactions in EUR before trimming
ESTRP25 Index	Rate at the 25th percentile of volumes
ESTRP75 Index	Rate at the 75th percentile of volumes

€STR Tickers

Click the links below to see a sample of Bloomberg tickers for supported €STR OIS products.

€STR swap market should emerge immediately... ... but let's wait for three more weeks

Due to the change in determination methodology, EONIA swaps contain €STR risk...

... and thus, EONIA swaps are de facto €STR products

Similar market conventions

€STR swap market will be born under the €STR brand when CCPs can clear them

- LCH to offer €STR swaps from **21 October**, discounted at EONIA ([Risk.net](#))
- EurexOTC Clear Release 10.0: Production Launch is planned on **18 November** ([Eurex](#))

Construction of an €STR curve unless liquid €STR instruments available: A “shifted EONIA curve” derived from the existing EONIA curve through a parallel shift of -8.5bp

Clean discounting

One single curve between counterparties, also in non-cleared derivatives

Either €STR or EONIA ($\text{€STR} + 8.5\text{bp}$) for all derivatives between two counterparties

The working group encourages the progressive phasing-out of legacy books discounted using EONIA

... ensuring that EONIA-discounted trades are moved to the €STR asap



Big Bang

... will create a universe of €STR discounted euro derivatives on one single day (switch date)

For cleared trades, the working group recommends that CCPs align their discounting switch dates as much as possible to transition from an EONIA to an €STR discounting regime...

... and set the discounting switch date as early as possible, preferably **towards the end of the second quarter of 2020**

The bilateral market likely to follow CCPs' practices

Discounting: €STR flat + compensation payment preferred

Counterparty A

- Derivatives **in the money**
- Would like to have €STR as price alignment interest, ie €STR discounting...
- ... as the discount curve would move lower by 8.5bp, increasing the positive NPV



Counterparty B

- Derivatives **out of the money**
- Would like to stick to EONIA discounting
- ... keeping the negative NPV unchanged, limiting any adverse P/L impact

- Counterparty A to win, as EONIA to be discontinued. The market to adopt €STR discounting.
- Risk/reward: be long discounting risk.
- However, authorities are unlikely to facilitate another “Goldman gold rush”.



Cash payment or swap-based compensation scheme to mitigate the P/L impact.

EONIA legacy contracts maturing beyond 2021

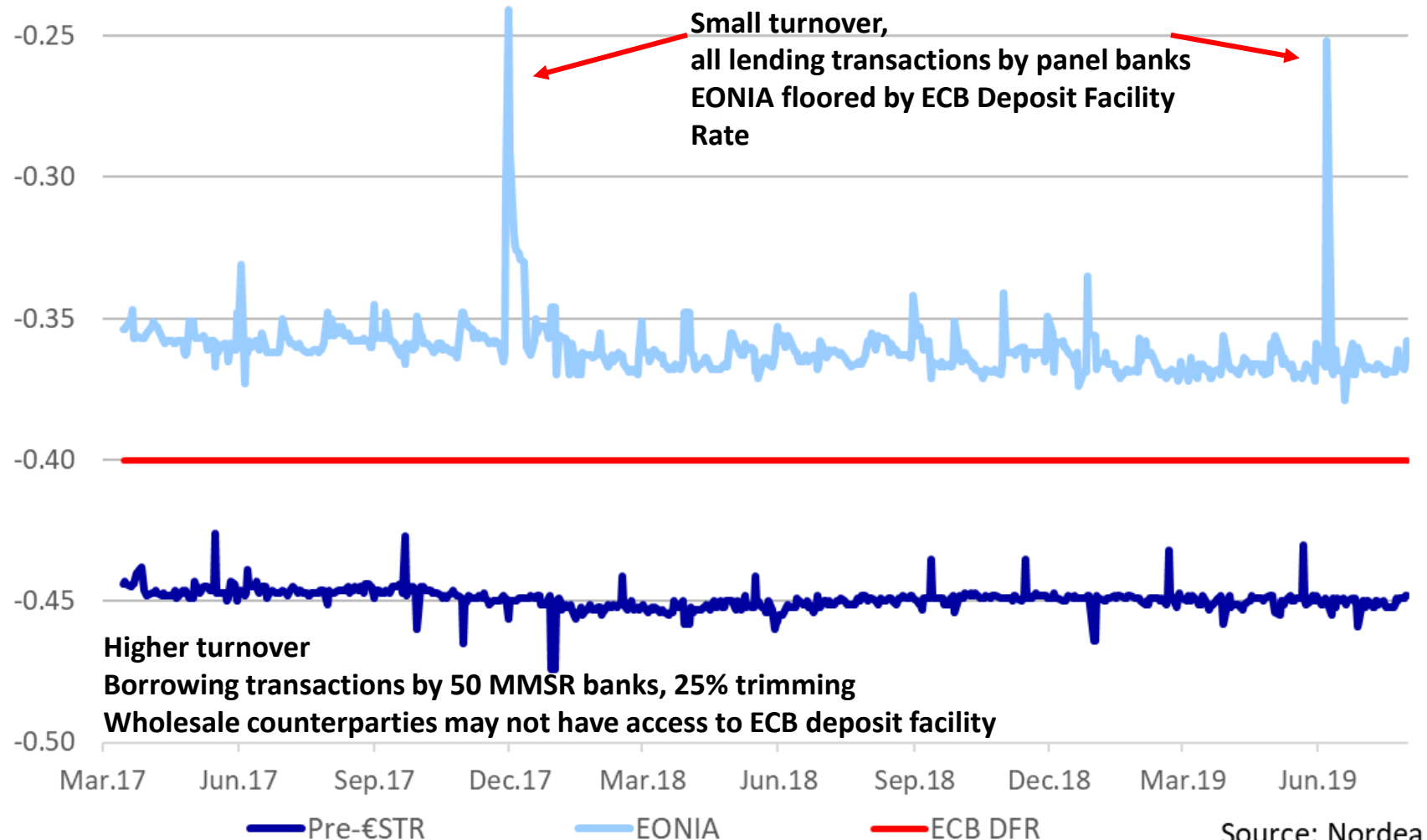
- a) **Fallback approach:** introduce and rely on contractual fallbacks to EONIA (ie €STR + 8.5 basis points) in the contract

- b) **Active transition:** agree on a process to actively transition the EONIA-based contract to a €STR-based contract, by replacing the EONIA with €STR FRO and:
 - (i) including **the spread** in the compounding formula
 - (ii) agreeing on **cash compensation** (ie no spread)
 - (iii) rebalancing **the fixed rate** (ie no spread)

EONIA contracts encouraged to switch into €STR

A fixed spread of 8.5bp helps transition

Pre-€STR about -5bp vs ECB Deposit Facility Rate (DFR) Will tiering affect €STR (and tracker EONIA)?



Source: Nordea

€STR in the tiering era: What are the MMSR banks going to do?

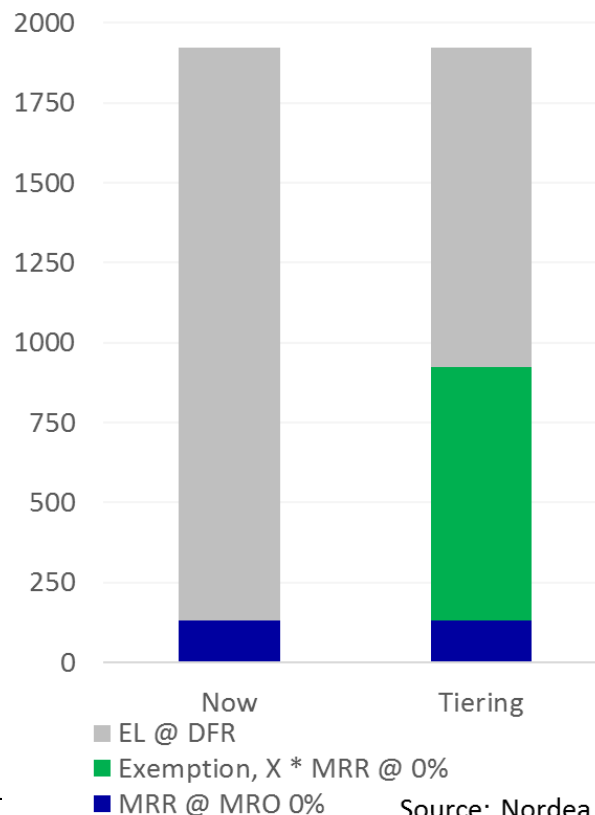
If they are überliquid, €STR to remain below the ECB Deposit Facility Rate

€STR: O/N wholesale borrowing transactions by these 50 MMSR agents,
after 25% of the highest and lowest rates excluded from the fixing calculation

ABN AMRO Bank N.V.	DekaBank Deutsche Girozentrale	2000
Allied Irish Banks plc	Deutsche Bank Aktiengesellschaft	
Banca IMI S.p.A.	DB Privat- und Firmenkundenbank AG	1750
Banca Monte dei Paschi di Siena S.p.A.	Dexia crédit local	
Banco Bilbao Vizcaya Argentaria, S.A.	DZ Bank AG Deutsche Zentral-Genossenschaftsbank	1500
Banco de Sabadell, S.A.	Hamburg Commercial Bank AG	
Banco BPM Societa' per Azioni	HSBC France	1250
Banco Santander, S.A.	ING Bank N.V.	
Bankia, S.A.	ING Belgique SA	1000
Banque fédérative du crédit mutuel	ING-DiBa AG	
Bayerische Landesbank	Intesa Sanpaolo S.p.A.	750
Belfius Banque SA	KBC Bank NV	
BNG Bank N.V.	Kreditanstalt für Wiederaufbau	500
BNP Paribas	La Banque Postale	
BNP Paribas Fortis SA	Landesbank Baden-Württemberg	250
BPCE	Landesbank Hessen-Thüringen Girozentrale	
Caisse des dépôts et consignations - section générale	Natixis	0
Caisse Fédérale de Crédit Mutuel	Norddeutsche Landesbank -Girozentrale-	
CaixaBank, S.A	Nordea Bank Abp	
Cassa Depositi e Prestiti Societa' per Azioni	NRW.BANK	
Commerzbank Aktiengesellschaft	Piraeus Bank, S.A.	
Coöperatieve Rabobank U.A.	Société Générale	
Crédit Agricole Corporate and Investment Bank	UniCredit Bank AG	
Crédit Agricole S.A.	UniCredit Bank Austria AG	
Crédit Lyonnais	UniCredit, Societa' per Azioni	

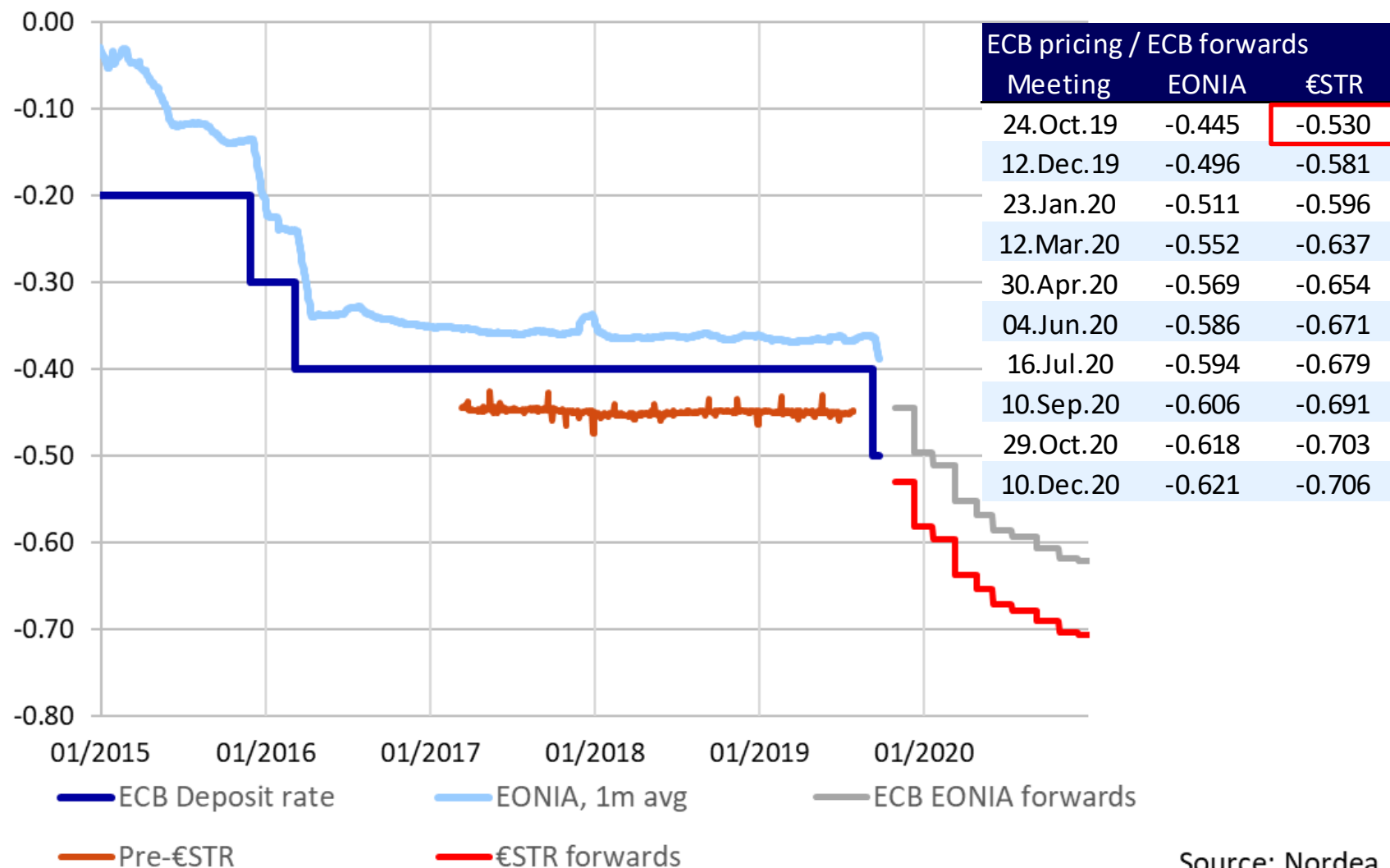
Source: ECB

New tiered deposit system with
an exempt tier of 6*MRR



Modest tiering impact on €STR

ECB forwards: €STR 3bp below the deposit rate (if no rate cut in October)

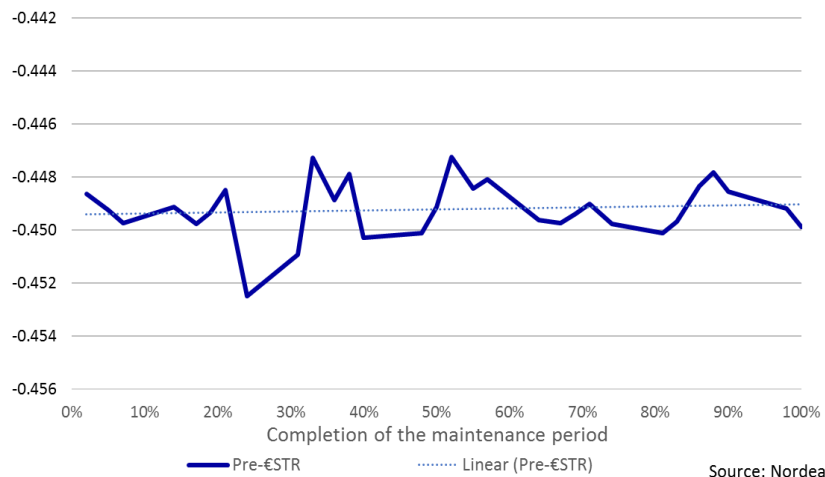


Source: Nordea

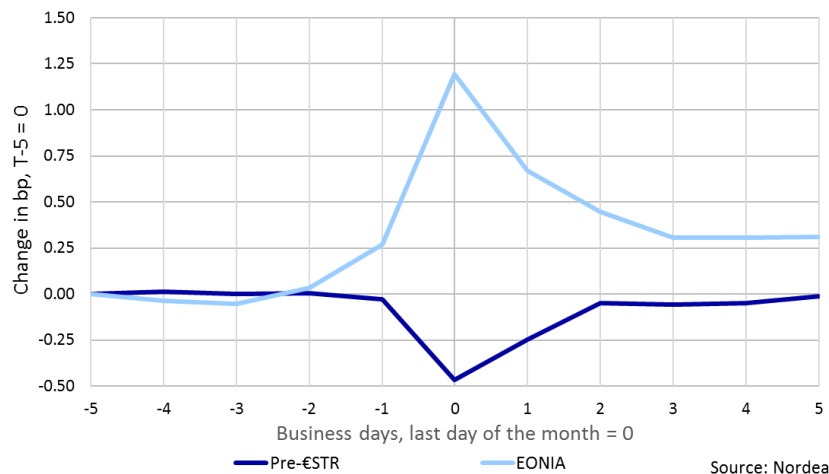
No seasonality during ECB reserve maintenance periods (Mar-17 -> Apr-19)

Month-/quarter-/year-ends – inverse reactions when compared to EONIA

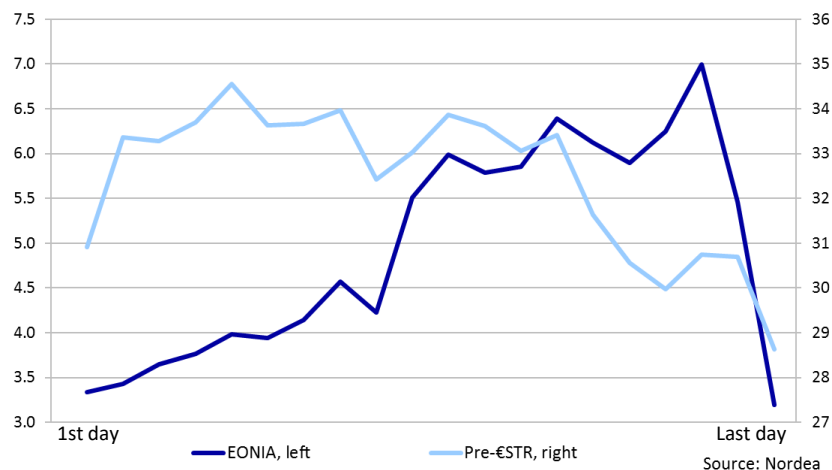
Pre-€STR has remained stable within maintenance periods



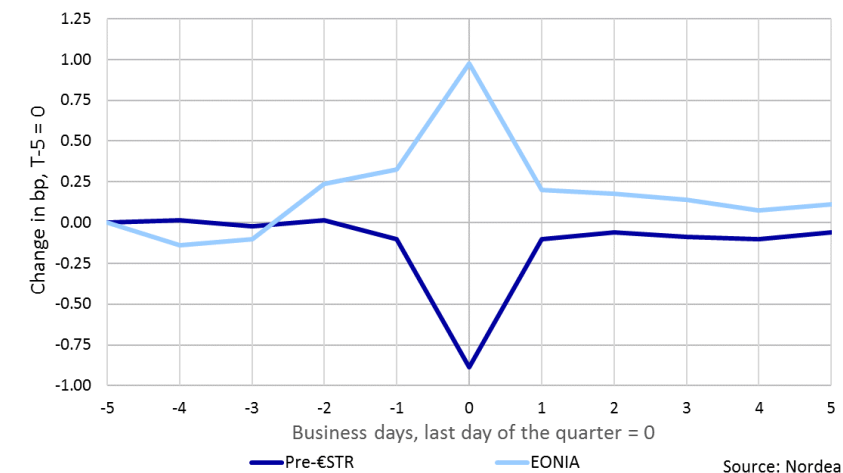
EONIA and pre-€STR around month-ends (Nov-17 excluded)



EONIA, pre-€STR volumes within a month, €bn



... and around quarter-ends only



Future in O/N nearly risk-free rates (RFRs)

In some markets, notably the largest part of **the interest rate derivative markets**, it will be important, however, that transition away from IBORs is **to the new overnight RFRs**



Following consultation with industry participants, regulators and the FSB OSSG, it was determined that **the fallbacks for derivatives will be the risk-free rates (RFRs)** identified by the relevant public-/private-sector working groups as an alternative to the IBORs.



Because term rates are not needed for the bulk of the derivatives market, and because the overnight RFRs are likely to be the most robust interest rate benchmarks available – since they are firmly grounded in transactions – **we expect that liquidity in interest rate derivative markets will in future be OIS-based**, ie, directly linked to the overnight RFRs.



FSB: Interest rate benchmark reform – overnight risk-free rates and term rates, 12 July 2018
ISDA Publishes Preliminary Results of Supplemental Benchmark Fallbacks Consultation, 30 July 2019
Interest rate benchmark reform: transition to a world without LIBOR, Andrew Bailey/FCA, 12 July 2018

Likely fallback solutions if benchmark rate permanently discontinued

Derivatives

- ISDA consultations
- FSB: derivatives to refer to O/N, not to term rates

• Fallback = compounded O/N risk-free rate fixing in arrears + a **fixed spread**

• The **spread** to be derived by historical mean/median approach

→
Consistency
swap vs bond

- EONIA to be discontinued:
ISDA fallback solution to be applied for legacy derivatives contracts
- ISDA will launch supplemental consultations covering Euribor and EUR Libor following the publication of €STR...
- ... and ISDA has indicated that, as recommended by the FSB, the options proposed will not include forward-looking methodologies, ie term rates.

Cash products

- Working groups on risk-free rates

• Fallback = forward-looking risk-free term rate + a fixed spread

- Working group on euro risk-free rates is developing **€STR term rates** as fallbacks for Euribor...

- ... based on **€STR swap fixings**

With the derivatives market moving to O/N rates, cash products to follow First €STR floating rate note already issued

Issuer Information				Identifiers	
Name	L-BANK BW FOERDERBANK			ID Number	ZR7169041
Industry	Local Authority (BCLASS)			ISIN	XS2056684892
Security Information				FIGI	BBG00QB26L93
Mkt Iss	Euro MTN			Bond Ratings	
Country	DE	Currency	EUR	Moody's	NA
Rank	Sr Unsecured	Series	5600	S&P	AAA
Coupon		Type	Floating	Composite	NR
Formula	OVRNT ESTR +200.0000			Issuance & Trading	
Day Cnt	ACT/360	Iss Price	103.82000	Amt Issued/Outstanding	
Maturity	10/08/2021			EUR	250,000.00 (M) /
BULLET				EUR	250,000.00 (M)
Iss Sprd				Min Piece/Increment	
Calc Type	(198)NO CALC-FLOATERS			100,000.00 / 100,000.00	
Pricing Date	09/19/2019			Par Amount	100,000.00
Interest Accrual Date	10/08/2019			Book Runner	UNICRD
1st Settle Date	10/08/2019			Exchange	LUXEMBOURG
1st Coupon Date	01/08/2020				

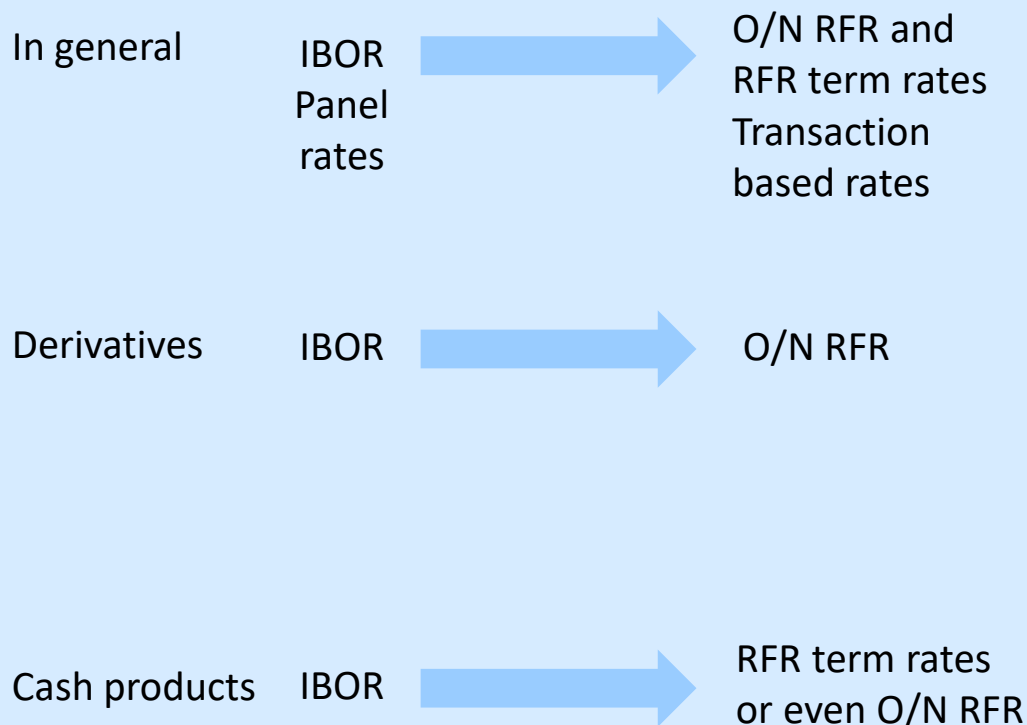
Source: Bloomberg

Coupons			
Coupon Information			
Benchmark	ESTRON	Benchmark Freq	OVRNT
Fix Frequency	Daily	Next Coupon Date	01/08/2020
Paying Agent		Prev Coupon Date	10/08/2019
Pay Calendars	TE	Cap	Floor
Refix Calendars	TE	Margin	+200
First Irreg Cpn	Normal	Current Coupon	Lockout
Last Irreg Cpn	Normal	Cpn Conv	Mod-Adj
		Cpn Freq	Quarterly
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Past Coupon Resets		Margin History	
Accrual Start	Rate	Date	Margin
01/08/2020			
10/08/2019			

Conclusions

- Adapt systems to T+1 publication
- €STR swap market should emerge soon, depending on CCPs
- €STR discounting in Q2 2020
- Legacy EONIA swaps: fallback approach or preferably active transition into €STR
- €STR may create a basis for all unsecured euro reference rates
- WG developing term reference rates, €STR swap fixings

Major trends in rates reforms



This global rates reform show is only about to begin – stay tuned

Appendix: Euro Short-Term Rate (€STR) – methodology

- Exclusively based on **borrowing** transactions in euro conducted with financial counterparties that 50 banks report in accordance with **MMSR Regulation**.
- **Overnight unsecured fixed-rate deposit transactions over EUR 1 million.**
- Each TARGET2 day as a volume-weighted trimmed mean rounded to the third decimal.
- **The volume-weighted trimmed mean** is calculated by:
 1. ordering transactions from the lowest rate to the highest rate.
 2. aggregating the transactions occurring at each rate level.
 3. **removing the top and bottom 25%** in volume terms.
 4. calculating **the mean of the remaining 50%** of the volume-weighted distribution of rates.
- A pro rata calculation is applied to volumes that span the thresholds for trimming to ensure that exactly 50% of the total eligible volume is used in the calculation of the volume-weighted mean.
- Contingency computation methodology will be applied if the number of reporting banks is less than 20 or five banks account for 75% or more of total transaction volumes. For further details, see **€STR methodology and policies**.

Together with **€STR**, the following is published:

- **total nominal value** of transactions before trimming in EUR millions
- **number of banks** reporting transactions before trimming
- **number of transactions** before trimming
- **percentage of total nominal amount reported by the five largest** contributing banks that day, as a whole number
- calculation **method**: normal or contingency
- **rates at the 25th and 75th percentiles** with two decimal places

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