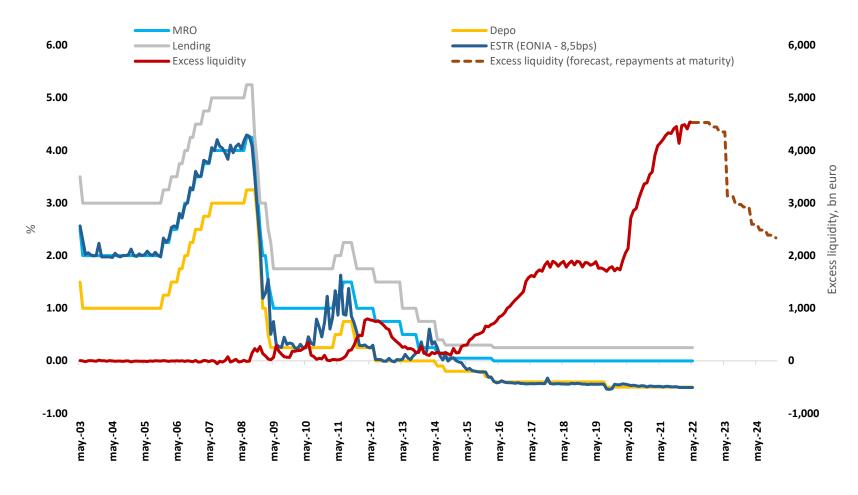


Excess liquidity, ESTR and ECB rates

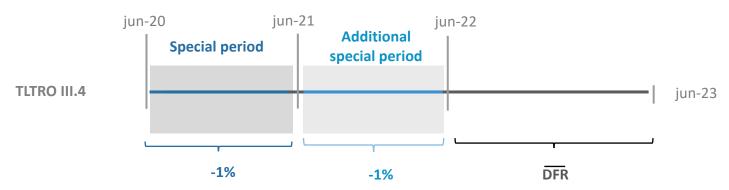


Sources and notes. Bloomberg. Excess liquidity projections based on excess liquidity at may-2022 and subtracting outstanding TLTROs operations at maturities



Applicable TLTRO interest rates

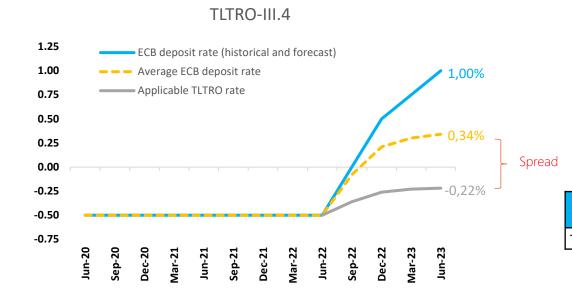
- Special interest rate periods (jun-20/jun-22): applicable interest rate is -1% (if lending performance thresholds are met)
- Outside the special interest rate periods: average of the deposit facility rate (DFR) over the life of the respective TLTRO III operation



The applicable interest rate from jun-22 onwards is the average of the deposit facility rate over the life of the respective TLTRO III operation, not the average rate of the remaining period.

Market expectations (30-may-2022)

| | - | |
|------------|---------------|--------|
| ECB rate h | ECB depo rate | |
| current | | -0,50% |
| 27/07/2022 | 25pb | -0,25% |
| 14/09/2022 | 25pb | 0,00% |
| 02/11/2022 | 25pb | 0,25% |
| 21/12/2022 | 25pb | 0,50% |
| 08/02/2023 | 25pb | 0,75% |
| 10/05/2023 | 25pb | 1,00% |
| 02/08/2023 | 25pb | 1,25% |



Positive impact driven by the spread between applicable TLTRO interest rates and ECB deposit rate.

Example TLTRO-III.4:

| Operation | Settlement | | Applicable TLTRO rate | |
|-------------|------------|------------|-----------------------|------|
| TLTRO-III.4 | 24/06/2020 | 28/06/2023 | -0,22 | 0,34 |

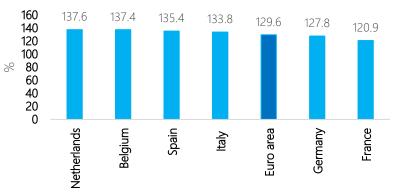
The ECB hiking cycle is likely to incentivize banks to keep TLTRO funding till contractual maturity based on the definition of the repricing mechanism.



TLTRO: early repayment considerations

• NSFR considerations are likely to increase repayments of TLTRO take-up deemed excessive. As the residual maturity of TLTRO tranches falls below 12 months, the regulatory use of the funds towards NSFR diminishes and banks have an incentive to repay. This incentive is even larger when the remaining maturity falls below six months.

Net Stable Funding Ratio (NSFR)



Sources and notes: ECB. Domestic banking groups and stand alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches, All institutions

- Since 1 April 2022 banks have to include again central bank exposures in the leverage ratio. This could imply a fall in reserves, led by a reduction of outstanding TLTRO balances.
- The large recourse to TLTRO-III was supported by a sizeable expansion of mobilised Eurosystem collateral. The gradual phasing-out gives banks time to adapt to the adjustments to the collateral framework.
- Regulatory bank levies and Single Resolution Fund levies set incentives for banks to reduce leverage.

Even with these considerations the benefits of holding on to TLTROs funding largely exceed the costs.



TLTRO: collateral

- April 2020: temporary expansion of the set of eligible assets and reduction of haircuts, extended until June 2022 in dec-22
- Easing measures contributed around €285bn to the total collateral value (23% of the increase of €1,2trn)*
- Gradual phase out of pandemic collateral easing measures
 - Jul-22: halve temporary reduction in haircuts from the current 20% adjustment to 10%
 - Jun-23: complete phase out of temporary haircut reduction
 - Mar-24: phase out remaining pandemic collateral easing measures

| 3,000 2,500 2,000 | | | | F (| Regior Unsectovere Dorpo Asset- Other Dredit | nal go ured l ed ba rate b backe mark Claim | ernme byernr bank lonk bo bonds ed sec etable ns nding | nent soonds ands urities asset | securit ; ; ts | | | | | | | |
|-------------------------|--------|---------|--------|---------|---|---|---|---|-------------------------|---------|--------|--------|--------|---------|--------|--------|
| 0,500 1,500 | | | | | | | | | | | | | | | | |
| 1,000 | | | | | | Н | | | | | | | Ш | Ш | Ш | |
| 500 | | | | | | | H | | H | Н | Н | Н | | П | П | |
| 0 | 014 Q3 | 2015 Q1 | 015 Q3 | 2016 Q1 | 016 Q3 | 2017 Q1 | 017 Q3 | 2018 Q1 | 018 Q3 | 2019 Q1 | 019 Q3 | 020 Q1 | 020 Q3 | 2021 Q1 | 021 Q3 | 022 Q1 |

| Source and notes: ECB, https://www.ecb.europa.eu/payr | m/coll/charts/html/index.en.html |
|--|---------------------------------------|
| *ECB staff estimates, Gradual phasing-out of pandemic co | ollateral easing measures (europa.eu) |

| | Central govt. securities | Regional govt. securities | bank | bank | Corp. bonds | ABS | Other marketable assets | Credit Claims | Total, bn euros |
|---------|--------------------------------|---------------------------------|------|------|----------------|-----|-------------------------------|------------------|--------------------|
| 2019 Q1 | 14% | 4% | 5% | 23% | 4% | 23% | 3% | 25% | 1.563 |
| 2019 Q2 | 14% | 4% | 5% | 24% | 3% | 23% | 2% | 24% | 1.565 |
| 2019 Q3 | 14% | 4% | 5% | 24% | 3% | 23% | 2% | 24% | 1.577 |
| 2019 Q4 | 14% | 4% | 5% | 25% | 3% | 23% | 2% | 24% | 1.543 |
| 2020 Q1 | 16% | 4% | 5% | 25% | 3% | 21% | 2% | 24% | 1.636 |
| 2020 Q2 | 16% | 3% | 6% | 24% | 4% | 16% | 2% | 28% | 2.374 |
| 2020 Q3 | 16% | 3% | 6% | 24% | 3% | 15% | 2% | 31% | 2.570 |
| 2020 Q4 | 15% | 3% | 6% | 24% | 3% | 15% | 2% | 32% | 2.595 |
| 2021 Q1 | 15% | 4% | 5% | 24% | 3% | 14% | 2% | 32% | 2.657 |
| 2021 Q2 | 16% | 3% | 5% | 25% | 3% | 14% | 2% | 32% | 2.796 |
| 2021 Q3 | 16% | 3% | 5% | 25% | 3% | 14% | 2% | 32% | 2.841 |
| 2021 Q4 | 15% | 3% | 5% | 25% | 3% | 14% | 2% | 32% | 2.839 |
| 2022 Q1 | 15% | 3% | 5% | 25% | 3% | 15% | 2% | 33% | 2.814 |

(€bn) sep-22 dic-22 84 mar-23 95 jun-23 1216 sep-23 162 dic-23 49 mar-24 329 jun-24 110 sep-24 97 dic-24 52

TLTRO maturities

+1.2 trn