Public Consultation
4 October 2021

Public Consultation on the Transition from Tom/Next to DESTR

By the Working Group on Short-Term Reference Rate

1. Introduction and invitation to comment

This is the second report by the Working Group on Short-Term Reference Rates (hereafter the Working Group), combined with a public consultation relating to the transition from the Danish benchmark reference rate Tom/Next to DESTR.[1] The report focuses on developing an adoption plan for DESTR and outlines a proposal for the transition from Tom/Next to DESTR as well as the discontinuation of Tom/Next. Stakeholders are hereby invited to comment on all matters in this report and in particular on the questions summarized in Appendix 1.

Comments are most helpful if they:

- Respond to the question stated
- Indicate the specific question to which the comment relates
- Contain a clear rationale
- Describe any alternatives the Working Group should consider

The Working Group will consider all comments received by 3 November 2021. An anonymised summary of the comments and the final recommendation from the Working Group will be published shortly thereafter.

All contributions should be submitted via email to DESTR@nationalbanken.dk under the heading "Comments to consultation".

2. Background and executive summary

The Working Group was established by Danmarks Nationalbank after it took over the ownership and administration of the new Danish reference rate, DESTR. The first publication contained the Working Group's recommendation for DESTR as the preferred short-term reference rate in Danish kroner.[2] The recommendation concluded that DESTR is a better alternative as a more resilient and robust reference rate. In addition, DESTR appears to be more stable and predictable, which creates a stronger foundation for using the new reference rate directly or indirectly in the Danish loan, bond and derivatives markets. Following the publication, the Danish Financial Supervisory Authority (FSA) stated their support of DESTR as the preferred short-term rate.[3]

1 DFBF Tom/Next Calculation Methodology (Tom/Next methodology, 2020) and DESTR – Review of Underlying Data and Methodology (DESTR methodology, 2021).

2 Recommendation of DESTR as the preferred risk-free reference rate in Danish kroner (First report on DESTR, 2021).

3 FSA states their support for DESTR (FSA supports DESTR as short-term rate, 2021).

An important part of the transition is to establish a clear plan for the cessation of Tom/Next in the same way as the euro area transitioned from EONIA to €STR. Subject to comments received in this consultation, this report offers clear recommendations to the Danish Financial Benchmark Facility (DFBF) as the administrator of Tom/Next on a suitable transition path.

The recommendations contained in this report represent the views of the Working Groups private sector members only and should not be taken as representing, or even approved by, the views of the public authorities concerned. Danmarks Nationalbank provides the secretariat for the Working Group. Representatives from the FSA, DFBF, Finance Denmark, Forsikring & Pension and ATP have participated in the Working Group as observers, however with no material objections to the recommendations in this report.

To summarise, the Working Group proposes the following transition from Tom/Next to DESTR. Once DESTR is launched on 1 April 2022 at the latest, the Tom/Next will be recalibrated to DESTR plus a spread. The spread should be based on the historical daily differences between DESTR and Tom/Next observed from 19 March 2021 until a date prior to the launch of DESTR. No trimming should apply for the spread calculation. The specific end date for the observation period will be decided by DFBF. Once DESTR is launched and Tom/Next has been reformed, a transition period will follow in which market participants should start trading DESTR related instruments instead of Tom/Next. It is the Working Group's recommendation that the transition period ends on 1 January 2026, where the reformed Tom/Next will cease to exist.

3. Content of the report

This report is organized as follows:

Section 4 briefly considers the recent international development within Risk Free Rates (RFR) and the implications for the Danish market.[4]

Section 5 provides an overview of the current use of the Tom/Next rate in the Danish markets.

Section 6 reviews two different transition models, inspired by the EONIA to €STR transition, and outlines the Working Group's preferred alternative. It recommends a model where Tom/Next becomes DESTR plus a fixed spread until the cessation date.

Section 7 contains the Working Group's main recommendations on the transition from Tom/Next to DESTR, including a spread methodology, a transition timeline and a cessation date for Tom/Next. Formally, the section is a series of recommendations to DFBF as the administrator of Tom/Next.

Section 8 discusses the market adoption of DESTR and recommends the market to refrain from entering into new contracts linked to Tom/Next at latest one year after DESTR is launched and to establish a DESTR market maker agreement.

Section 9 highlights some of the main legal questions arising from the transition. The section gives an overview of indicative answers to some of the legal concerns, although the section should not be used as basis for any kind of decision-making.

The final section briefly discusses implications of the proposed transition for CITA and the possible development of a term structure based on DESTR. This section also contains an appeal to the sector to continue its work on reforming CITA.

4. The reference rate reform – internationally and in Denmark

Reference rates play a critical role in the financial system. The volume of financial products and loan agreements linked to such rates is very high, as reference rates are typically used as an anchor or base value in the pricing of a financial contract, e.g. debt products and interest rate

4 The term risk-free has been slightly misused during the benchmark rates reform. Unsecured O/N rates, e.g. DESTR and €STR, do contain credit risk albeit less than the existing term reference rates. Nonetheless, the alternative reference rates are commonly referred to as being risk-free rates and hence, we stick to this terminology in order to avoid any confusion.

derivatives. Despite the widespread use of these rates, the volume of transactions underlying the rates themselves has steadily declined since the global financial crisis.

In Denmark, reference rates are also used in the bond-, loan- and derivatives markets as base for the variable rate. There exist four official Danish reference rates, which are all administrated by DFBF.

Two of the reference rates are lending rates:
- Tomorrow/Next (Tom/Next)
- Copenhagen Interbank Offered Rate (CIBOR)

Two are swap reference rates:
- Copenhagen Interbank Tomorrow/Next Average (CITA) which is based on Overnight Index Swaps (OIS) with Tom/Next as the floating leg
- DKK Swap which is based on Interest rate swaps with CIBOR 6M as the floating leg

Within the last decade, regulators, central banks and benchmark administrators have expressed a need for reforming or, in some cases, removing benchmarks, as the underlying turnover is considered too small and challenges the representativeness of the benchmarks. The financial markets need robust and credible benchmarks as the reference for loans, bonds and derivatives. This has resulted in new reference rates being established internationally, e.g. €STR in the euro area, SOFR in the US and reformed SONIA in the UK.

Across the Scandinavian countries, the respective central banks have all launched new domestic short-term transaction-based reference rates. In Norway, a working group published its recommendation of a reformed version of NOWA (Norwegian Overnight Weighted Average) as the alternative reference rate at the end of September 2019.[5] In Sweden, the Executive Board of the Riksbank decided in December 2019 that the Riksbank would provide a new transaction-based reference rate in Swedish krona, named SWESTR (Swedish Krona Short Term Rate).[6] SWESTR will serve as an alternative to the current shortest reference rate, STIBOR Tomorrow-Next.

Although the new RFRs internationally may vary in characteristics, e.g. based on secured or unsecured borrowing/lending, the overall consensus has been to create new robust and representative rates, which are backed by actual transactions and not merely bank quotations. With the launch of DESTR, Denmark aligns itself with the international development.

5. Use of Tom/Next in financial markets

Tom/Next is used in a wide variety of products, for many purposes and by many different stakeholders across the financial markets, including, but not limited to, banks, asset managers, insurance companies, hedge funds, corporates, the government and semi-government agencies. The following highlights the most important areas of use. Data is provided to support the current use where possible.

Loan market
The loan market includes lending from regulated financial institutions to its customers, but also lending across public and private sector entities, including group-internal funding in corporations. The loan market includes deposits, loans, overdrafts, committed facilities etc.

The use of CIBOR (3M and 6M) is dominant in this market, whereas the use of Tom/Next and CITA is more limited. Contracts based on Tom/Next are typically short-dated or uncommitted which indicates that these contracts can smoothly and in due time be shifted towards DESTR as the new base rate.

Bank loans referencing CITA are very modest with volumes around kr. 7 billion distributed across approximately 8,500 loans, primarily to households.[7]

Bond market
In contrast, the mortgage bond market relies heavily on CITA – as well as CIBOR – for floating-rate bonds used to fund lending to both household and business customers. Table 1 provides an overview of the development in outstanding volumes of bonds referencing CITA. The vast majority, if not all, of these are mortgage bonds and,

5 Norges Bank recommends reformed NOWAs as RFR (Reformed NOWA recommendation, 2019).

6 Background on SWESTR.

7 Source: Danmarks Nationalbank.

by the nature of the Danish mortgage system, relates to a similar volume of outstanding mortgage loans with CITA as the base rate (including 'prioritetslån' (mortgage-like bank loans)). Mortgage loans referencing CITA are typically used by households. The longest outstanding bonds referencing CITA mature in 2024, cf. chart 1.

Derivatives market

The majority of DKK derivatives (interest rate swaps, forward rate agreements and cross currency basis swaps) are linked to CIBOR (3M and 6M). However, an OIS market is also well functioning and liquid in terms of the CITA swap with standard tenors from one month to five years. As mentioned, the CITA swap uses the Tom/Next as the floating reference rate. Due to the close correlation with Danmarks Nationalbank's key interest rates, CITA swaps are used by market participants to reduce or increase exposure to these rates. Moreover, market participants use CITA swaps as input for pricing and hedging of short-term bonds. Tom/Next is furthermore used as the shortest tenor on the CIBOR curve to calculate a short first or non-standard interest period.

The limited outstanding number of CITA swaps beyond the five-year tenor enables a seemingly smooth transition to DESTR, since the majority of the existing CITA swaps can mature before the publication of Tom/Next is stopped. As considered later in this report, it requires that the length of the transition period is sufficient and that a liquid DKK OIS market referencing DESTR is established.

A quantitative study has been conducted by Danmarks Nationalbank based on Danish banks' exposure to the derivatives market.[8] As seen in chart 2 below, 95 per cent of outstanding swaps referencing Tom/Next mature by the end of 2023. The longest outstanding swap matures in 2035. The total outstanding volume is around kr. 520 billion.

Clearing

DKK OIS swaps against the Tom/Next are not offered for clearing by any of the Central clearing Counterparties (CCP).

Cash flow discounting or valuation

Tom/Next is used for reference in CSA and GMRA agreements for daily collateral calls. Tom/Next is also accepted at CCPs for daily collateral calls. This means that Tom/

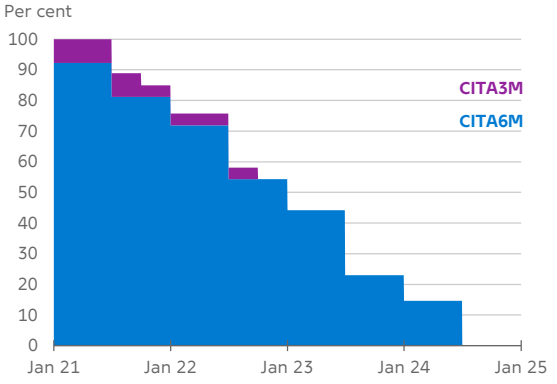
8 Data from the participating banks in the Working group has been collected.

Outstanding volumes in VP-registered bonds Table 1

Kr. billion	2018	2019	2020
CITA3M	19	18	15
CITA6M	150	171	151
Total	**169**	**189**	**166**

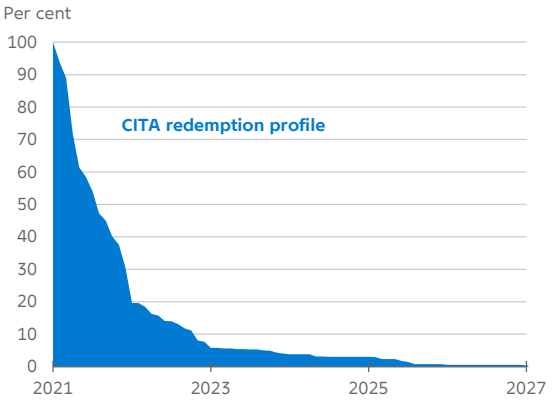
Note: Outstanding volumes end of year.
Source: Danmarks Nationalbank and Scanrate.

Maturity profile for bonds referencing CITA Chart 1



Note: Redemption profile as a percentage of total outstanding volume as of end May 2021.
Source: Danmarks Nationalbank and Scanrate.

Majority of CITA swaps matures by 2023 Chart 2



Note: Outstanding swap volumes referencing CITA as a percentage of total outstanding volume as of April 2021.
Source: Danmarks Nationalbank.

Next is used as reference rate when calculating interest on cash exchanged based on the valuation of collateralised derivatives contracts. As a consequence, Tom/Next is also used for discounting cash flows from collateralised derivatives contracts.

CP-markets
A floating reference rate is commonly used in the CP and CD markets in major currencies. However, volumes in CP and CD markets in Danish kroner are very modest, and the use of Tom/Next is expected to be limited in those markets.

Internal pricing
As Tom/Next is correlated with funding rates, Tom/Next is used for internal transfer pricing between different profit centres and subsidiaries in banks and large companies.

Internal models
Tom/Next and CITA reference rates are an integrated part of banks' risk management models and included in a series of regulatory stress tests.

Funds
Investment managers have exposures in CITA swaps and bonds with CITA as the floating rate reference. Tom/Next and CITA swap curves are used by funds as a proxy for the risk-free rate when calculating risk-adjusted returns on investments. Tom/Next can also be used as a benchmark on low-duration investment portfolios (Money Market Funds). As a consequence of CCPs' use of Tom/Next when calculating daily collateral calls, funds are also exposed to Tom/Next from discounting cash flows on derivatives.

Other products
The following products have some application in the euro market: Debt capital market, repo, swing-line loans, guarantees, default interest or penalty rate, guaranteed investment contracts etc. In the Danish market, these products are considered to have limited exposure towards Tom/Next and CITA.

For all products mentioned above, a smooth and orderly transition from Tom/Next to DESTR is essential.

Question 1
Do you see other important product types or exposures referencing or linked to Tom/Next, which should be considered in the transition as described below?

6. Transition from Tom/Next to DESTR

The introduction of DESTR has received strong support from the Danish financial sector, Danmarks Nationalbank and the FSA. With the broad support for DESTR as the preferred short-term reference rate the Working Group finds it natural to initiate a transition from Tom/Next to DESTR. In any case it would be appropriate for the administrator of Tom/Next, DFBF, to review the methodology underlying Tom/Next and evaluate, in accordance with the EU Benchmark Regulation (BMR), if a continuation of Tom/Next is still justifiable following the introduction of DESTR.

With the wide range of products referencing Tom/Next and CITA, the Working Group sees a need for a clear plan for the transition from Tom/Next to DESTR. The transition plan must be communicated well ahead of the launch of DESTR (expected in Q1 2022), as uncertainty about the future of Tom/Next and products linked to Tom/Next could cause unwanted disruption of the markets.

Choosing a transition format which is commonly known and internationally accepted is seen as an advantage, as a special Danish solution may drive away international market participants due to the resources needed to understand and accommodate to it.

The Working Group has used the following criteria to assess the best possible transition:
- The transition should be transparent and easy to understand for market participants
- The transition should minimize uncertainty across the financial markets
- The transition should require a minimal use of resources for market participants
- The transition to DESTR should be rapid to the largest extent possible

Transition approaches

For the transition, the Working Group considered the same four transition paths outlined by the ECB working group on euro risk-free rates for the EONIA to €STR transition.9 The four approaches have been evaluated by the Working Group based on their fit for the Tom/Next to DESTR transition. The Working Group finds that two of the four approaches could be suitable for the Danish transition:

1. Parallel run approach
2. Recalibration approach

Both approaches will lead to the cessation of Tom/Next at a given point in time. This is preferable as two short-dated reference rates would fragment the Danish market with a lack of standards and market liquidity. Finally, both approaches have been applied in an international context, which makes them easier to understand for market participants.

Parallel run approach

This approach would imply a pure market-led transition with DESTR and Tom/Next running in parallel until a cessation date for Tom/Next.

The defining feature of the parallel run is that the current Tom/Next would continue as it is today. It would thus not be impacted by the launch of DESTR. The Tom/Next would still be administered by DFBF, and panel banks would continue to contribute daily input data until a cessation date. There would be simultaneous independent operations of Tom/Next and DESTR discounting with counterparties and at CCPs.

One benefit of the parallel run approach is that no changes have to be made to existing contracts referring to Tom/Next or CITA. Markets would merely have DESTR as a new short-term rate but most existing setups would remain unaffected. The parallel run approach would give market participants time to familiarise themselves with DESTR and DESTR-based instruments, to develop a DESTR liquidity pool alongside a Tom/Next liquidity pool and to shift their exposures from Tom/Next to DESTR before a cessation date. Market participants would also have the full freedom not to use the new rate at all. However, with the catch that Tom/Next will be unavailable by a cessation date.

In the parallel run approach, all contracts currently referencing Tom/Next and CITA would be able to run until maturity or the cessation date. In the meantime, DESTR-related products and instruments would have time to develop sufficient market liquidity.

A principal concern with the parallel run is that it does not address the risk of current panel banks withdrawing from Tom/Next contribution. The administrative burden involved in contributing to Tom/Next could cause some panel banks to choose to withdraw as contributor. As the contribution to Tom/Next is voluntary any bank can freely withdraw by giving three months' notice. If several banks were to withdraw from the contribution to Tom/Next, a mandatory cessation process could be triggered and thereby compromise both CITA swaps and mortgage bonds referencing CITA.

Further, a parallel run approach runs the risk of delaying the transition to DESTR. Most likely, liquidity would be dispersed between Tom/Next and DESTR-linked products during the transition period, making both markets suffer from a lack of liquidity. Any transition suffers from the inherent problem that new products need to be liquid before market participants will start to use them, which can make the transition to DESTR slow or unsuccessful if Tom/Next continues as an independent alternative.

Additional challenges could arise from having to explain clients and customers the difference between the two rates and the related products.

Recalibration approach

This approach is perhaps the most well-known internationally and has proven to be effective and efficient in the EONIA to €STR transition. Under the recalibration approach, the Tom/Next methodology would be changed to become dependent on DESTR as of a recalibration date. Tom/Next would then be defined as DESTR plus a spread adjustment (hereafter reformed Tom/Next). Tom/Next (as well as CITA) would continue to exist until the cessation date. Existing contracts referencing Tom/Next and CITA that mature before the cessation date would be able to run until maturity, while DESTR-related products and instruments would have time to develop. By choosing a suitable transition period, the need to resort to fallback clauses would be kept at a minimum.

9 Transition paths considered for EONIA (Transition paths for EONIA, 2019).

One advantage in this approach is that Tom/Next would from day one following the methodology change adopt the superior characteristics of DESTR, hereunder the larger underlying transaction volume. In addition, the methodology change for Tom/Next makes the daily contributions from panel banks redundant thereby removing the risk that panel banks withdraw from the panel. This would be in contrast to the parallel run approach.

The administrator, DFBF, would need to change the methodology behind Tom/Next in accordance with BMR and would continue to publish Tom/Next based on the new methodology until the cessation date. The spread added to DESTR should reflect the historical spread between DESTR and Tom/Next with the purpose of offsetting any transfer of economic value.

The Working Group sees it as very beneficial to follow the recalibration approach used for the EONIA to €STR transition as this has seen great support from the market and is by now well tested.

The Working Group's preferred transition approach

Based on the criteria listed in the beginning of this section, the Working Group sees the strongest case for recommending the recalibration approach as it effectively ensures immediate transition to DESTR, while still allowing time for most existing contracts to mature which reduces the need to resort to fallback language or legacy clauses. Further, it also lays the ground for a smooth transition process for CITA and removes the risk that panel banks withdraw from the Tom/Next contribution.

Question 2

Do you agree with the recommendation to follow a similar recalibration approach as used for the EONIA to €STR transition, whereby Tom/Next will be linked to DESTR at a fixed spread until a cessation date?

7. Recommendation on transition method and cessation of Tom/Next

This section lays out the Working Group's main recommendations on the transition process if the recalibration approach is chosen. The recalibration approach implies that Tom/Next from the DESTR launch date will be defined as DESTR plus a spread adjustment. The spread adjustment is determined and announced prior to the launch of DESTR.

This section goes through the Working Groups recommendation for the following components:
1) the transition period and cessation date, 2) observation period for the spread determination 3) spread adjustment methodology and 4) aligning the value days of DESTR and Tom/Next.

The Working Group's recommendations can be summarized as follows and are formally aimed at DFBF as the administrator of Tom/Next:

1. Modify the current Tom/Next methodology to become DESTR plus a spread adjustment until a given cessation date. The methodology change should enter into force at the same time as DESTR is launched.
2. Discontinue the publication of the reformed Tom/Next at the cessation date 1 January 2026.
3. Calculate the adjustment spread as the average spread (no trimming applied) between Tom/Next and DESTR based on a 9-12 months observation period starting at the earliest 19 March 2021.
4. Announce the adjustment spread and methodology change prior to the launch of DESTR.

Transition period and cessation date of Tom/Next

The transition period is the time from the launch of DESTR until the cessation date for Tom/Next. In this period, the publication of the reformed Tom/Next continues as a fixed spread to DESTR. During this period, existing contracts referencing Tom/Next can continue unaffected.[10] The Working Group bases its recommendations on the below criteria for an appropriate transition period. The need for a longer transition period arises mainly out of

10 Please see section 8 on the legal implications of redefining Tom/Next into a reformed methodology.

concern for contracts that rely on CITA, primarily mortgage bonds and the underlying loans.

Criteria for a suitable transition period:
1. Allow sufficient time for the necessary reform of Tom/Next and especially CITA, and for a DESTR-based OIS market to develop.
2. Allow sufficient time to avoid triggering fallback clauses for existing contracts to the largest extent possible. In particular, contracts involving retail clients should be allowed to run off whenever possible.
3. Allow market participants to enter into new contracts based on existing reference rates for as long as new term markets are still being developed. This will allow normal business to continue unaffected during the transition phase.
4. Avoid a too long transition phase that effectively inhibits market participants from moving to DESTR.

The principal concern during the transition period is that market participants must be given sufficient time to adapt to DESTR, including making the necessary adjustments to IT systems and allowing, e.g., clearing houses to change discounting regime. This also ensures that the market is given sufficient time to develop an alternative to the existing Tom/Next-based term structure.

It is also essential that the transition period is sufficiently long as to not disrupt normal business. This means that market participants must be able to rely on existing reference rates, including the existing CITA term structure, until alternatives have evolved. This requires a transition period that is sufficiently long to allow new contracts based on existing reference rates to mature during the transition period. At the same time, the transition period must not be too long as it reduces the incentive to implement the changes. Further, the ideal transition period is sufficiently long to reduce the need to resort to fallback clauses in existing contracts to a minimum while, again, avoiding a too long transition period.

Section 4 showed that 95 per cent of outstanding derivatives contracts referencing Tom/Next will mature before the end of 2023 and 99 per cent before the end of 2025. The longest outstanding mortgage bonds matures by the end of 2024. However, this does not take into consideration the need to issue longer-dated bonds indirectly referencing Tom/Next prior to or following the beginning of the transition period but before a viable alternative has been developed.

Given the data on existing contracts and the experience from other jurisdictions making the transition to new reference rates, the Working Group believes that an appropriate transition period needs to be at least two years to accommodate necessary IT development, and close to three years to allow existing contracts to mature. And, depending on the exact timing of the launch of DESTR, up to four years to avoid disrupting the ongoing refinancing of mortgage bonds and loans linked to CITA.

This leads to the following recommendation to DFBF:
1. Prior to the launch date of DESTR DFBF should announce the discontinuation of the publication of Tom/Next upon the cessation date in line with previous sections.
2. The cessation date for the publication of Tom/Next should be 1 of January 2026 given that DESTR is expected to be launched in Q1 2022.

Question 3
Assuming a launch date of DESTR 1 April 2022 at the latest.

Do you agree with the suggested cessation date of 1 January 2026?
Do you currently have, or expect to take on, exposures that run beyond the suggested cessation date, which you deem to be problematic?

Responses should consider the possibility of own mitigating actions, like contract re-negotiations, strengthening of fallback and/or switch language.

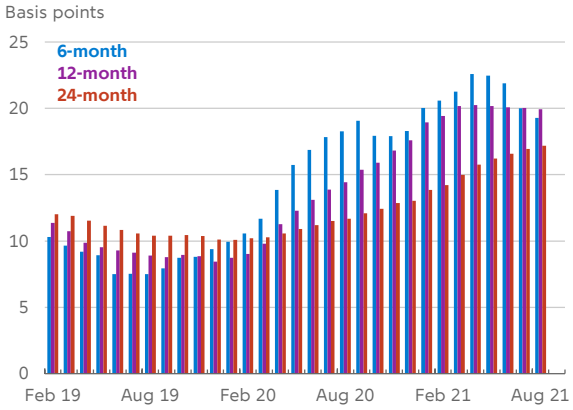
Any transition seeking to discontinue existing reference rates runs the inherent risk that there are existing, so-called tough legacy contracts with no or insufficient fallback language. The Working Group is not familiar with tough legacy contracts referencing Tom/Next. However, the Working Group invites market participants to share information on the contrary during the consultation period for this report.

The Working Group is in favour of legislation that formally nominates DESTR as the replacement rate for Tom/Next as this would provide a clear, legal basis for the application of the reformed Tom/Next in existing contracts with insufficient fallback language and ensure

that no market participants are overlooked. The Working Group does, however, understand that BMR does not allow such a transition process for Danish reference rates, including the Tom/Next. The Working Group instead invites the Danish authorities to pay careful attention to any valid concerns raised during the consultation period and to support the efforts to secure an orderly transition.

Question 4
Do you have contracts with no or insufficient fallback language referencing or linked to Tom/Next (tough legacy contracts where verbal support from the authorities would be helpful)?

Spread widening since covid-19 outbreak between Tom/Next and DESTR Chart 3



Note: x-axis represents the end of the observation period. No trimming is applied to spread calculations.
Source: Danmarks Nationalbank.

Observation period for spread calculations

One of the challenges of the transition plan is determining the most appropriate spread. A longer observation period ensures a more robust spread determination but may also give rise to higher value transfers among market participants. A shorter observation period reduces value transfers but is more sensitive to temporary market movements.

Given the technical adjustment of the monetary policy instruments introduced by Danmarks Nationalbank on 19 March 2021[11], the Working Group proposes that the observation period for calculating the Tom/Next-DESTR spread starts no earlier than this date. To ensure a sufficiently robust spread determination and avoid short-term volatility, the Working Group further proposes that the observation period should be as long as possible given the deadline set by the launch of DESTR.

Based on publicly available time series for pre-DESTR and Tom/Next, the Working Group has reviewed the calculated spread between DESTR and Tom/Next for different observation periods. The data shows a clear spread widening since the onset of covid-19, cf. chart 3. Apart from periods of higher volatility, the onset of covid-19 also marks a structural drop in excess liquidity in Danish kroner. Since the end of Q1 2021, liquidity has started to rise back towards levels observed in previous years. Thus, a shorter observation period implies a higher spread based on the data available at this point. For long contracts, one might argue that a longer observation period is the best approach and would give rise to less expected value transfer. For shorter contracts, the same argument calls for a shorter observation period and, as demonstrated in section 4, the vast majority of contracts relying on Tom/Next mature within one to two years from now. This would in itself tend to favour a shorter observation period of, for instance, one year. One year was also the observation period used when determining the spread between EONIA and €STR.

The Working Group therefore recommends that the observation period for the spread determination cover minimum nine months and preferably as close to twelve months as possible, with the first day of the observation period being 19 March 2021 or later. Such an observation period will be in line with/comparable to the EONIA-€STR spread determination, which was one year. The Working Group recommends that DESTR should be launched close to 1 April 2022 to allow for a sufficiently long observation period to be used in the spread determination.

11 Technical Adjustment of the Monetary Policy Instruments, Danmarks Nationalbank 2021, (*link*).

Question 5

Do you agree with a 9-12 months observation period for the spread determination, starting on the 19 March 2021 at the earliest and ending close, but prior to the launch date of DESTR?

Subject to the responses to question 5, the Working Group would have the following recommendations to DFBF:

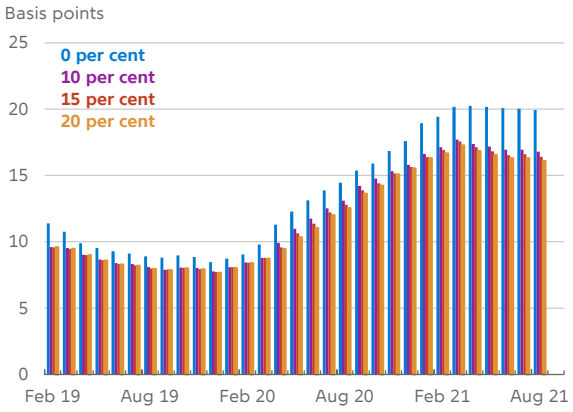
1. The spread that will apply for the reformed Tom/Next after the launch of DESTR should be based on an observation period beginning no earlier than on 19 March 2021.
2. The observation period of 9-12 months should end in Q1 2022 and the spread should be made public prior to the launch of DESTR.

Spread calculation methodology

The spread between Tom/Next and DESTR arises from three parameters:

1. DESTR is a deposit rate, where Tom/Next is a lending rate. As with EONIA and €STR, one would expect this to yield a positive spread between the two, with Tom/Next expected to be the higher of the two.
2. DESTR is based on O/N deposits and thus includes transactions with value date equal to trade date that mature the following business day. Tom/Next, on the other hand, is based on transactions with value date tomorrow and maturity the following business day (two trade days from the trade date). Thus, for the same trade date, DESTR and Tom/Next have different value dates. Therefore, when calculating the historical spread adjustment, the value dates should be aligned to ensure that transactions with the same value date are used.
3. DESTR is based on wholesale borrowing transactions with banks and other financial institutions, whereas Tom/Next is an interbank rate. DESTR is, however, predominately based on interbank transactions.[12]

Tom/Next – pre-DESTR spread for different trimming levels Chart 4



Note: Spread calculations are based on a 12-month observation period.
Source: Danmarks Nationalbank

Based on publicly available time series for pre-DESTR and Tom/Next, the Working Group has considered the various trimming levels in order to potentially exclude outlier days.[13] For this purpose, spread differences are calculated by using pre-DESTR and Tom/Next for the same value date. The daily calculated spread has then been ranked from lowest to highest, and the respective trimming levels are applied to remove days with the smallest and the largest observed spreads.[14]

It is clear from chart 4 that there is a significant difference in spreads when no trimming is applied compared to all other trimming levels. This derives from the familiar pattern for Tom/Next around month-ends and, in particular, quarter-ends as demonstrated in chart 5. The usual justification for applying trimming is to remove anomalies that are not representative of the underlying trend. This was the reason why the ECB working group recommended a 15 per cent trimming to be applied when calculating the spread between EONIA and €STR. However, trimming also removes systematic, but rare patterns that are in fact representative of an underlying time series. Based on chart 5, the Working Group believes that 'turn effects' are a fundamental property of Tom/Next that are naturally embedded

12 Review of underlying data and methodology for DESTR (DESTR methodology, 2021).

13 See (*link*).

14 The spread calculation is based on calendar dates, i.e. including weekends and holidays. Summary statistics on the spread calculations for different trimming levels and observation periods can be found in Appendix B.

in market expectations and therefore impact, e.g. CITA. The application of trimming unavoidably removes those 'turn effects' as they appear only around month-ends, and it would lead to undesirable value transfers if trimming was applied. In the Working Group's view, the concern of avoiding value transfers and the desire to base the spread on data that is representative of Tom/Next outweighs any concerns around including potential outlier observations. Thus, the Working Group recommends that no trimming be applied when determining the spread between Tom/Next and DESTR.

Question 6
Do you agree that no trimming should be applied when calculating the spread adjustment?

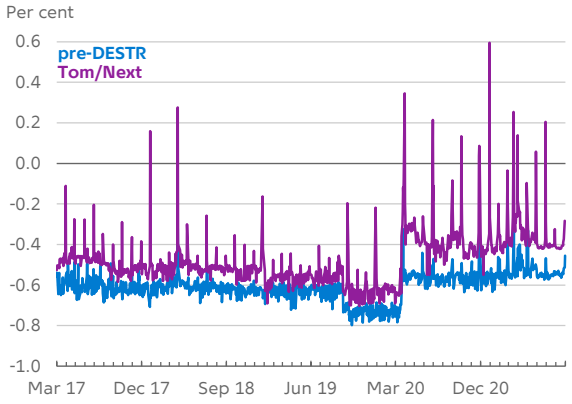
Subject to responses to question 6, the Working Group has the following recommendations to DFBF:

1. No trimming should be applied when calculating the spread between Tom/Next and pre-DESTR
2. The spread determination should be performed in coordination with and made public by Danmarks Nationalbank

Timeline for the publication of Tom/Next around the launch of DESTR

To align value and publication days for DESTR and reformed Tom/Next it is necessary to change the publication time of Tom/Next. In practice, on the day DESTR is launched, T+0, the methodology change for Tom/Next also enters into force. Thus, on this date, neither DESTR nor Tom/Next is published. The first publication of DESTR on day T+1, will be for trades with value date T+0. As, Tom/Next from this day is published as DESTR plus a spread adjustment, the Tom/Next published on day T+1 will also be for value day T+0. This ensures that Tom/Next has been published for all value days. The timeline is illustrated in Table 2 assuming that DESTR is launched on day T+0 and published the first time on day T+1.

Tom/Next and DESTR timeseries Chart 5



Source:Danmarks Nationalbank and Bloomberg

8. Recommendations for the market adoption of DESTR

Subject to the responses to questions 1-6, the Working Group would see it as an advantage to provide direction for market participants to transition to DESTR for new contracts as soon as possible and to stop entering into new contracts based on Tom/Next from a specified date after the launch of DESTR. The Working Group believes

Timeline for the publication of Tom/Next around the launch of DESTR Table 2

	T-1	T+0	T+1
Tom/Next	Current methodology (Value date: T-1)	No publication	DESTR + spread (Value date: T+0)
DESTR	No publication	No publication	First publication (Value date: T+0)

that the period after the launch of DESTR should be one year which is found to be suitable and manageable. This should be understood as a recommendation to cease using Tom/Next for new contracts and instead switch to DESTR as soon as possible and no later than one year after the launch of DESTR. It should thus not discourage anyone from making a faster transition.

Question 7
Do you agree with the recommendation to refrain from entering into new contracts based on Tom/Next one year after the launch of DESTR?
Do you consider it realistic?

To facilitate the switch from Tom/Next to DESTR and to help establish a well-functioning and liquid DESTR swap market the Working Group recommends to establish a DESTR market maker agreement governed by Finance Denmark, where market makers commit themselves to quote tradable prices for OIS with DESTR as floating leg. It is the Working Group's firm expectation that participants subject to the existing market maker agreements administered by Finance Denmark will join the agreement.

Moreover, the Working Group proposes working with interbank brokers that are active in the DKK interest rate derivatives market to ensure that appropriate screens are set up on financial market data vendors (e.g. Bloomberg and Refinitiv), such that indicative mid-market prices are made available to the wider market.

Finally, the Working Group also proposes to work with potential issuers of DESTR-linked bonds to encourage issuance that would help establish some 'end-user' flow in the market and generate activity.

The proposed initiatives are the first step in building liquidity in DESTR swaps. Unfortunately, experience from other jurisdictions makes the Working Group cautious in terms of predicting when DESTR swaps will dominate the Danish OIS market in terms of traded volume. EONIA has been a tracker index to €STR since October 2019, yet market participants still continue to trade EONIA. Trading EONIA gives market participants €STR risk, and market participants thus have little incentive to adapt their IT systems etc. to €STR trading. There is a risk that we will see the same in Denmark during the transition period where Tom/Next will be a tracker index to DESTR. Hopefully, the Working Group's recommendation to the sector to refrain from entering into new contracts based on Tom/Next one year after the launch of DESTR eliminates this risk.

9. Legal considerations about the main recommendation

The Working Group understands the need for DFBF as administrator of Tom/Next to limit any legal risks arising from a transition process that will result in a revision and, ultimately, cessation of Tom/Next. The Working Group cannot give advice to DFBF about the legal implications of a change to the methodology behind Tom/Next. Nor can the Working Group give legal advice to users of Tom/Next such as banks or their customers about the legal implications in a contractual relationship where Tom/Next is used and where the methodology behind Tom/Next is changed by DFBF.

However, Article 11 of the BMR requires an administrator to consider if the input data behind a benchmark continues to represent the market or economic reality that the benchmark is intended to measure. The Working Group also notes that according to Article 11, input data must be transaction data, if available and appropriate. Therefore, a methodology change where Tom/Next is based on DESTR does not seem to go against Article 11. In fact, since DESTR is based on transaction data it seems to be in line with Article 11 to reconsider the methodology and make a change which will favour transaction data.

In the opinion of the Working Group, it will serve as a strong basis for DFBF's decision to change the methodology if both the FSA, Danmarks Nationalbank and the Danish Banking sector support the change of methodology. Also, the Working Group understands that the Tom/Next methodology will not be changed before DFBF has conducted a public hearing on their side and has considered the responses.

The Working Group believes that under Danish law the impact of a methodology change on a contractual relationship which references Tom/Next will have to be considered based on the wording of the contract. If, for instance, a loan contract referencing Tom/Next contains a fallback clause which regulates the consequences of a methodology change, then this fallback clause must be complied with.

If the contract does not mention the consequences of a methodology change, the Working Group finds it likely that Tom/Next will continue to apply under the revised methodology, provided that the new methodology is considered to be reasonably justified and the change does not lead to material value transfers between the parties. It will be for the contractual parties to make this assessment, and the parties may, of course, try to renegotiate the contract.

The Working Group believes that changes in methodologies behind reference rates, such as EONIA and EURIBOR, have not led to significant issues in contractual relationships.

10. Term rates and implications for CITA

Work on term reference rates in Denmark is handled by the RFR working group in Finance Denmark. This section should be seen as a supplement to this work and especially the recent memo published by the RFR working group regarding the potential use of forward and backward-looking term reference rates.[15]

Unlike most other international rates markets, the DKK market is characterised by the existence of an OIS reference rate, CITA. Thus, an official forward-looking OIS term structure is already used in the bond and loan markets. This implies that a transition of Tom/Next to DESTR has direct implications for term reference rates and thus warrants the continuation of sector work in Finance Denmark and DFBF on the need for reform of the existing CITA methodology.

The international development seems to favour the publication of backward-looking indices based on the new RFRs. Thus, both the Bank of England (BoE) and the ECB (from April 2021) publish term rates based on historical observations of SONIA and €STR, respectively. In the UK, the BoE has further supported the publication of transaction-based forward-looking term rates based on SONIA OIS. The ECB has not taken a similar step, since EURIBOR will continue in its current form unlike LIBOR. Recently, the Alternative Reference Rates Committee (ARRC) in the US has formally recommended the use of CME Group's forward-looking term rates based on SOFR to enable the transition away from USD LIBOR. The steps taken by the BoE and ARRC indicate that a forward-looking reference rate is needed in certain loan markets, especially those aimed at retail clients. The Working Group therefore agrees with the views in the above-mentioned memo from Finance Denmark and sees a similar need in Denmark. The Working Group also finds, parallel to the views of the ARRC, that the introduction of a DESTR-based, forward-looking term structure would help smoothen any future transition away from CIBOR.

The most important part of any transition towards a new term structure of reference rates is the alignment of bond, loan and derivatives markets. A derivative market that follows the same conventions as the bond and loan markets is essential for the ability of market participants to properly hedge interest rate exposures. Widespread use of reference rates in bond and loan markets is similarly a prerequisite for sufficiently liquid derivatives markets in the same underlying reference rates. The latter points to the benefits of promoting a term structure of reference rates that builds on a DESTR-based OIS market. Use of DESTR-based OIS rates by bond and loan markets will, in itself, generate the kind of liquidity in OIS markets that is needed to ensure market confidence in the underlying OIS reference rates. The development of an OIS market could make use of both backward and forward-looking indices.

A successful adoption of DESTR requires that alternatives to the current use of CITA become available to the market quickly so as to not disrupt the functioning of bond and loan markets. The Working Group encourages the sector to consider the range of current applications of CITA when forming recommendations on future reform. For instance, mortgage lenders need a long-term perspective when deciding on the range of loan products on offer, and this decision hinges on the standards that prevail in bond markets. CITA mortgage loans (including 'prioritetslån' (mortgage-like bank loans)) are offered to retail clients and therefore special considerations related to both current practice and, in particular, a desire to avoid unnecessary complexity become important. Further, consumer legislation also comes into play. As outlined in the memo by Finance Denmark and an example of a potential obstacle to a transition towards backward-looking interest rates, current Danish consumer law is typically interpreted as requiring that retail

15 See (*link*).

clients know their interest payments in advance. Similarly, mortgage borrowers are informed of their upcoming interest payments well in advance of when the payment falls due. Thus, there are both potential legal and practical impediments to a reform that relies entirely on DESTR and backward-looking indices based thereon. The Working Group believes that there are many similar examples and wishes to stress the importance of considering the special needs of the mortgage market where retail clients act as both borrowers and investors.

The Working Group thus also believes that a successful adoption of DESTR requires that the necessary set of reference rates, including a robust term structure, are made available – no more and no less – to accommodate the needs across products in the loan, bond and derivatives markets. This will help to ensure the widespread use of the new reference rates, which is a fundamental prerequisite for their robustness and for building market confidence in them. The future work on reforming CITA should thus seek to make the transition as smooth as possible by making use of existing market practices to the largest extent possible.

The need to reform CITA is hence an immediate consequence of this recommendation to reform Tom/Next. The RFR working group in Finance Denmark is currently looking at the possibilities to reform CITA. The Working Group strongly supports this work, including the above-mentioned memo from July 2021, and wishes to stress the urgency of resolving the future of CITA for all market participants. A material delay of this important work could impact the recommendations on a preferred transition period contained in this report. The Working Group will keep the public informed if it sees any need to adjust its recommendations.

Appendix

a. Overview of questions for the consultation

Question 1
Do you see other important product types or exposures referencing or linked to Tom/Next, which should be considered in the transition as described below?

Question 2
Do you agree with the recommendation to follow a similar recalibration approach as used for the EONIA to €STR transition, whereby Tom/Next will be linked to DESTR at a fixed spread until a cessation date?

Question 3
Assuming a launch date of DESTR 1 April 2022 at the latest.

Do you agree with the suggested cessation date of 1 January 2026? Do you currently have, or expect to take on, exposures that run beyond the suggested cessation date, which you deem to be problematic?

Responses should consider the possibility of own mitigating actions, like contract re-negotiations, strengthening of fallback and/or switch language.

Question 4
Do you have contracts with no or insufficient fallback language referencing or linked to Tom/Next (tough legacy contracts where verbal support from the authorities would be helpful)?

Question 5
Do you agree with a 9-12 months observation period for the spread determination, starting on the 19 March 2021 at the earliest and ending close, but prior to the launch date of DESTR?

Question 6
Do you agree that no trimming should be applied when calculating the spread adjustment?

Question 7
Do you agree with the recommendation to refrain from entering into new contracts based on Tom/Next one year after the launch of DESTR? Do you consider it realistic?

b. Spread calculations

Overview of spread calculations Table 2

Description	Spread calculation in basis points
Historical mean, 1M	13.58
Historical mean, 6M	19.29
Historical mean, 12M	19.93
Historical mean, 24M	17.18
Historical mean, full data	13.81
Trimmed mean, 10%, 1M	13.29
Trimmed mean, 10%, 6M	16.54
Trimmed mean, 10%, 12M	16.79
Trimmed mean, 10%, 24M	13.74
Trimmed mean, 10%, full data	12.00
Trimmed mean, 15%, 1M	13.32
Trimmed mean, 15%, 6M	16.17
Trimmed mean, 15%, 12M	16.40
Trimmed mean, 15%, 24M	14.90
Trimmed mean, 15%, full data	11.79
Trimmed mean, 20%, 1M	13.24
Trimmed mean, 20%, 6M	15.89
Trimmed mean, 20%, 12M	16.08
Trimmed mean, 20%, 24M	14.75
Trimmed mean, 20%, full data	11.67
Median, 12M	15.72
Median, full data	11.46

Note: Observation period is from March 2017 to ultimo August 2021 and both DESTR and Tom/Next data is publicly available. Spreads are calculated for calendar dates and same settlement date. These values are purely indicative and users should not rely upon to form any expectations.
Source: Danmarks Nationalbank.