

Report

ESMA assessment of the shortening of the settlement cycle in the European Union

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1 Executive Summary

Reasons for publication

CSDR¹ mandates ESMA to submit to the European Parliament and to the Council by 17 January 2025 a report including:

- (a) an assessment of the appropriateness of shortening the settlement cycle and the potential impact of such shortening on CSDs, trading venues and other market participants;
- (b) an assessment of the costs and benefits of shortening the settlement cycle in the Union, differentiating, where appropriate, between different financial instruments and categories of transactions;
- (c) a detailed outline of how to move to a shorter settlement cycle, differentiating, where appropriate, between different financial instruments and categories of transactions;
- (d) an overview of international developments on settlement cycles and their impact on the Union's capital markets.

Following its Call for evidence on shortening the settlement cycle, ESMA published on 21 March 2024 a feedback statement including the main considerations that a total of 81 respondents shared with ESMA as well as ESMA's preliminary views.

Furthermore, ESMA held a workshop with the EU industry on 4 December 2023 and a public hearing on 10 July 2024.

On 17 September 2024, ESMA's Securities and Markets Stakeholder Group (MSG), published its advice to ESMA on consultation papers on CSDR and the draft regulatory technical standards (RTS) on the substantial importance of a CSD² which included the MSG views on T+1.

Finally, in order to comply with its mandate to produce this report in close cooperation with members of the ESCB, ESMA has consulted twice the Market Infrastructure and Payments Committee (MIPC) of the ESCB.

Taking into account the above-mentioned feedback, this Report provides ESMA's assessment on the move to a shorter settlement cycle in the EU, in accordance with its legal mandate.

Contents

Following the executive summary and the background section in Section 2, Section 3 is divided into three subsections providing: (i) ESMA's assessment of the appropriateness of shortening the settlement cycle and the impact this could have on market participants; (ii) the assessment of the costs and benefits of shortening the settlement cycle in the EU; and, (iii) a detailed outline of how to move to a shorter settlement cycle.

Section 4 provides an overview of international developments on settlement cycles and explains their impact on the EU's capital markets.

After having conducted this assessment, ESMA concludes that:

- Shortening the settlement cycle in the EU will undoubtedly change the way in which markets function today, affecting all entities along the transaction and settlement chains, with different impact depending on the type of stakeholder, the category of transaction and the type of financial instrument.
- When assessing the possible duration of a shorter settlement cycle, it appears clear that the settlement cycle should be shortened to the first business day after the transaction has been executed (T+1). A settlement cycle shorter than that (i.e. T+0) could be envisaged in the longer term (after T+1 has been achieved in the EU) and pending a deeper assessment.
- Quantifying some of the costs and benefits related to the shortening of the settlement cycle in the EU has been challenging. However, the elements assessed by ESMA suggest that the impact of T+1 in terms of risk reduction, margin savings and the reduction of costs linked to the misalignment with other major jurisdictions globally, represent important benefits for the EU capital markets.
- Amending Article 5(2) of CSDR and the settlement discipline delegated regulation is needed to have the legal certainty and to foster the necessary improvements in post-trading processes needed to have a successful EU move to T+1.

¹ Regulation (EU) 2023/2845 of the European Parliament and of the Council of 13 December 2023 amending Regulation (EU) No 909/2014 as regards settlement discipline, cross-border provision of services, supervisory cooperation, provision of banking-type ancillary services and requirements for third-country central securities depositories and amending Regulation (EU) No 236/2012

² https://www.esma.europa.eu/sites/default/files/2024-09/ESMA24-229244789-5139_MSG_Advice_on_CSDR.pdf

- Harmonisation, standardisation and modernisation, already encouraged to improve settlement efficiency, will be needed across the entire ecosystem to achieve a shorter settlement cycle and will require investments. The improved efficiency and resilience of post-trade processes that would be prompted by a move to T+1 would facilitate achieving the objective of further promoting settlement efficiency in the EU. Moreover, harmonisation and standardisation promote market integration and ultimately, the SIU objective.
- The complexity of such a project in a complex trading and post-trading environment (such as the one in EU capital markets) calls for a specific governance to be put in place.
- The migration to T+1 in the EU should be achieved in Q4 2027. Considering the different elements assessed in this report, in particular the difficulties linked to the go-live of such a big project in November and December, and the challenges linked to the first Monday of October (just after the end of a quarter), ESMA recommends 11 October 2027 as the optimal date for the transition to T+1 in the EU. A coordinated approach across Europe is desirable.

Next steps

Following the publication of this report, ESMA will continue its work towards the shortening of the settlement cycle through the regulatory work related to the revision of rules on settlement efficiency as well as in the framework of the proposed T+1 governance.

LIST OF ACRONYMS

APAC	Asia-Pacific Region
CCPs	Central Counterparties
CLS	Continuous Linked Settlement
CSDs	Central Securities Depositories
CSDR	Regulation (EU) No 909/2014
DICMG	Eurosystem's Debt Issuance Market Contact Group
DvP	Delivery versus Payment
ECB	European Central Bank
EEA	European Economic Area
EFAMA	European Fund and Asset Management Association
ESCB	European System of Central Banks
ESMA	European Securities and Markets Authority
ETF	Exchange Traded Fund
EU	European Union
FOP	Free of Payment
ICSDs	International Central Security Depositories
MTF	Multilateral Trading Facility
NAV	Net Asset Value
NCA	National Competent Authority
NTS	Nighttime Settlement
OTC	Over the Counter

OTF	Organised Trading Facility
PvP	Payment versus Payment
RTS	Real Time Settlement
RTS	Regulatory Technical Standard
SEC	US Securities and Exchange Commission
SFT	Securities Financing Transaction
SIU	Savings and Investments Union
SMSG	ESMA's Securities and Markets Stakeholders Group
SSI	Standard Settlement Instruction
SSS	Securities Settlement System
STP	Straight-Through-Processing
T2S	TARGET2-Securities
UCITS	Undertakings for Collective Investment in Transferable Securities

2 Background

1. The settlement cycle, i.e. the time between the execution of a transaction and its settlement, is a cornerstone of the functioning of the markets and has always been a matter of focus for legislators, regulators and market players around the world. Already in 1989, a report on clearance and settlement recommended to standardise settlement periods throughout international markets, even acknowledging that “same day settlement is the final goal”³.
2. Until the adoption of the Central Securities Depositories Regulation⁴ (CSDR) in 2014, the length of the securities settlement cycle (the time between trade and settlement) was not harmonised in the EU, and this lack of harmonisation was identified by the European Commission and the co-legislators as a risk for safe cross-border settlement.
3. In 2014, CSDR introduced for the first time in the EU a requirement for all transactions in transferable securities which are executed on trading venues to be settled by no later than the second business day after the trading takes place⁵. This requirement is commonly referred to as a “T+2” settlement cycle.
4. Ten years later, the question of further shortening the settlement cycle arises in a global context where many jurisdictions around the world have implemented settlement cycles shorter than T+2 (China, India and more recently, in May 2024 also the US, Canada and Mexico) or consider doing so in the near future (e.g., the UK, Switzerland, or Australia).
5. Article 74(3) of CSDR, as amended by CSDR Refit⁶, has mandated ESMA, in close cooperation with the members of the ESCB, to produce a report including:
 - (a) an assessment of the possibility to shorten the settlement cycle and the potential impact of such shortening on CSDs, trading venues and other market participants;
 - (b) an assessment of the costs and benefits of shortening the settlement cycle in the Union, differentiating where appropriate between different financial instruments and categories of transactions;

³ Report “Clearance and Settlement Systems in the World’s Securities Markets” from the “Group of Thirty” (private sector group), published in March 1989.

⁴ Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories.

⁵ Article 5 of CSDR.

⁶ OJ L, 2023/2845, 27.12.2023

- (c) a detailed outline of how to move to a shorter settlement cycle, differentiating, where appropriate, between different financial instruments and categories of transactions;
 - (d) an overview of international developments on settlement cycles and their impact on the Union's capital markets.
6. For this purpose, in October 2023 ESMA launched a call for evidence to gather stakeholders' views and quantitative evidence regarding the possibility of shortening the settlement cycle in the EU. The feedback received to ESMA's Call for evidence was summarised and published on 21 March 2024⁷. Furthermore, ESMA held a workshop with the EU industry on 4 December 2023 and a public hearing on 10 July 2024.
 7. To complement the limited quantitative evidence received through the different engagement with stakeholders, ESMA has also gathered data from different sources, including market infrastructures (mainly CSDs, CCPs and T2S) and some commercial data in relation to the evolution of markets following the shift to T+1.
 8. On 17 September 2024, ESMA's MSG, published its advice to ESMA on consultation papers on CSDR and the draft RTS on the substantial importance of a CSD⁸ which included the MSG views on T+1.
 9. Finally, the T2S governance provided feedback on the potential impact that the shortening of the settlement cycle in the EU could have on T2S operations and evolution.
 10. All this feedback has contributed to ESMA's assessment presented in this report.

⁷ <https://www.esma.europa.eu/press-news/esma-news/t1-feedback-report-shows-mixed-impacts-shortening-settlement-cycle-eu>

⁸ https://www.esma.europa.eu/sites/default/files/2024-09/ESMA24-229244789-5139_MSG_Advice_on_CSDR.pdf

3 ESMA's assessment regarding the shortening of the settlement cycle in the Union

11. This section presents: (i) ESMA's assessment of the impact that shortening the settlement cycle could have in the way markets operate; (ii) the costs and benefits assessment; and (iii) the detailed outline of how to move to a shorter settlement cycle in the EU, including preliminary recommendations for legislative and regulatory changes in the EU.

3.1 Assessing the impact that shortening the settlement cycle could have in the way markets operate

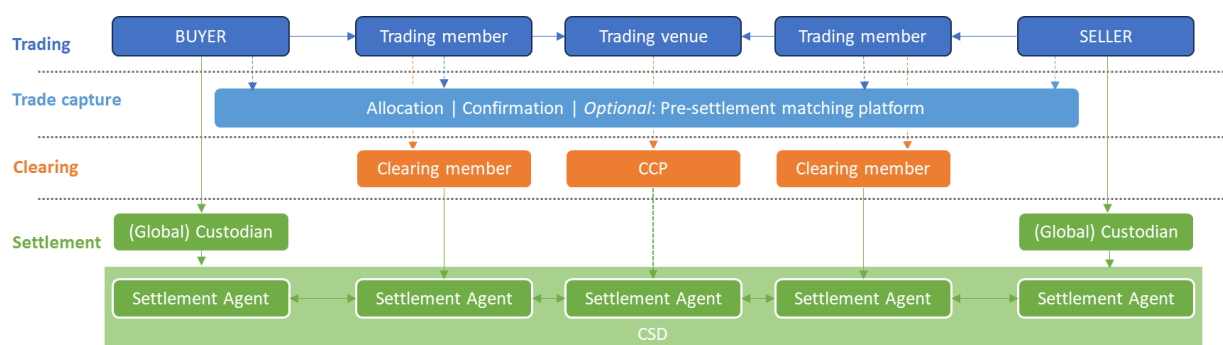
12. Before describing the impact that shortening the settlement cycle could have in markets operations, section 3.1.1 provides an overview of the processes necessary to the conclusion of a transaction on a security, the current timings of those processes and a brief assessment of data on actual settlement processes in the EU. Not all processes leading to the settlement of a transaction are fully standardised, also the high number of stakeholders intervening in the different processes and the complex post-trading infrastructure in the EU, make it difficult to describe simply and comprehensively all the steps between trading and settlement. However, the overview provided, complemented with the data on actual settlement, should help setting the scene before describing the impact.
13. Furthermore, section 3.1.2 provides the reasons for the choice of T+1 over T+0 settlement in ESMA's assessment and section 3.1.3 presents the potential impact of a move to a T+1.

3.1.1 How does a securities transaction settle in the EU today?

14. From an operational perspective, as shown in Figure 1 below, the completion of the trade lifecycle requires several steps to be performed by different market players organised in different businesses which are, from a regulatory perspective, usually looked at independently (e.g., trading, clearing, settlement).

15. Thinking about the shortening of the settlement cycle requires however to look at the different businesses, their interactions and interdependencies, together. As such, in a simplified example that could illustrate the complexity of the trade lifecycle, when a buyer passes a buying order for a security through its broker to a trading venue, the completion of this transaction will involve not only the buyer, the seller, their respective brokers and the trading venue (trading layer), but also the clearing members, who might or might not be the same as the brokers, the CCP (clearing layer) as well as the custodians, settlement agents and the CSD (settlement layer). This becomes more complex when adjacent processes are needed to complete the transactions (such as FX, securities lending or borrowing).

FIGURE 1: OVERVIEW OF A CURRENT SECURITIES TRANSACTION LIFECYCLE



Source: AFME Response to the ESMA CfE, Annex 2, ESMA

16. As illustrated in Figure 1 above, for equity markets, an average trade lifecycle unfolds as follows: the customer (e.g. the buyer or seller) sends an order to its broker or directly to its trading member, who sends it to the trading venue.
17. Once the execution of the trade has been notified to the trading member, broker and client (trade execution confirmation), they exchange information as to the securities and cash which will be allocated to the trade and the accounts where to find them (allocation) and the broker confirms the allocation (confirmation). The allocation and the confirmation can be done simultaneously. This is to allow a safe and efficient settlement and can be performed on a dedicated platform, or on a bilateral basis.
18. If the trade has to be cleared by a CCP (based on a regulatory requirement, on the rules of the trading venue or on the agreement of the trading parties), the CCP receives the notification of the trade executions from the trading venue and interposes itself in the transaction, i.e. becomes the seller to the buyer and the buyer to the seller (the novation process).

19. After reconciling information on trades with the trading venue, the CCP nets all trades (e.g., per ISIN or per ISIN and per trading member) and determines what should effectively be settled (this may imply that the settlement of one settlement instruction between two stakeholders is in fact the result of netting of many more transactions). The CCP sends settlement instructions to settlement agents and CSDs. The CCP also calculates its exposure on all open positions and requires clearing members to post the related margins. The end of day margin calls must be met by the clearing members on T+1 in the morning and also intraday margin calls can be performed throughout the day. Margins can be covered in securities or cash, usually through the ECB TARGET2 payment system if cash margins are paid in Euro.
20. All settlement instructions must be sent through the custody chain from the trading parties to the CSD (e.g., customer sends to global custodian which sends to local custodian, which sends to CSD – there can be more intermediaries and as many levels in a custody chain) as soon as possible.
21. Settlement instructions must then be matched at CSD level. If the pieces of information transmitted to the CSD correspond, they can be settled in the CSD's securities settlement system (SSS).
22. Finally, settlement statuses are sent back through the custody chain from the CSD to the customers.
23. Note that this example describes the scenario of a single CSD involved in the settlement process. It is often the case however that several CSDs are involved in the settlement process, with one acting as issuer CSD and the others as investor CSDs.
24. Considering that most European stock exchanges close between 17:30 CET and 20:30 CET, with a few of them enabling late trading until 22:00 CET, in a T+2 environment, roughly 22-26 hours are available for market participants to complete all the pre-settlement activities and send all settlement instructions e.g. to TARGET2-Securities⁹ (T2S) in time for the start of 'night-time settlement' (NTS) at 20:00 on the business day following T. In a T+1 environment, this time window would be drastically reduced.

⁹ A common settlement platform, where settlement is attempted as soon as settlement instructions are received/matched and the intended settlement date (ISD) is reached, irrespective of the trade date, type of instruction or type of transaction.

25. In the European Economic Area (EEA), the number of infrastructures is higher than in other jurisdictions, including 90 trading venues¹⁰, 14 CCPs¹¹ and 34 CSDs¹² (24¹³ of which have outsourced settlement to T2S to settle in central bank money). Finally, the coexistence of 11 different currencies adds to this complexity.
26. Settlement may involve more than one CSD, acting as issuer or investor CSDs in relation to a securities issue, and a buyer and seller in a securities transaction may hold accounts in different CSDs. The different trading platforms offer different trading hours (some of them might remain open to trading until 22:00 CET or even later). In addition, CCPs also have their own operating schedule and different settlement schedules effectively exist in the Union (mainly the one followed by T2S¹⁴ and those of the CSDs that have not outsourced settlement to T2S). This contributes to the lack of standardisation of some of the processes, as already highlighted at the beginning of this section.
27. From a legal and regulatory perspective, rules applying to the settlement cycle can be found in Articles 5 and 6 of Commission Delegated Regulation on settlement discipline¹⁵ and ESMA guidelines on standardised procedures and messaging protocols¹⁶.
28. According to these rules, transactions in transferable securities which are executed on trading venues must settle no later than the second business day following the execution of the transaction (i.e. on T+2). The following transactions are however excluded from the scope of this requirement:
- transactions which are negotiated privately but executed on a trading venue,
 - transactions which are executed bilaterally but reported to a trading venue, or
 - the first transaction where the transferable securities concerned are subject to initial recording in book-entry form pursuant to Article 3(2) of CSDR.

¹⁰ including regulated markets, multilateral trading facilities (MTFs) and (organised trading facilities (OTFs), based on number of Operating Market Identifier Codes (MICs, noting that one Operating MIC may have various Segment MICs)

¹¹ Although not all these 14 CCPs provide clearing services in relation to securities.

¹² This number includes 27 CSDs from the private sector (for the complete list please refer to the [CSD Register](#) published by ESMA) and 7 CSDs operated by a public body (a central bank in all cases but one).

¹³ https://www.ecb.europa.eu/paym/target/target-professional-use-documents-links/t2s/shared/pdf/List_of_CSDs_connected_to_T2S.pdf

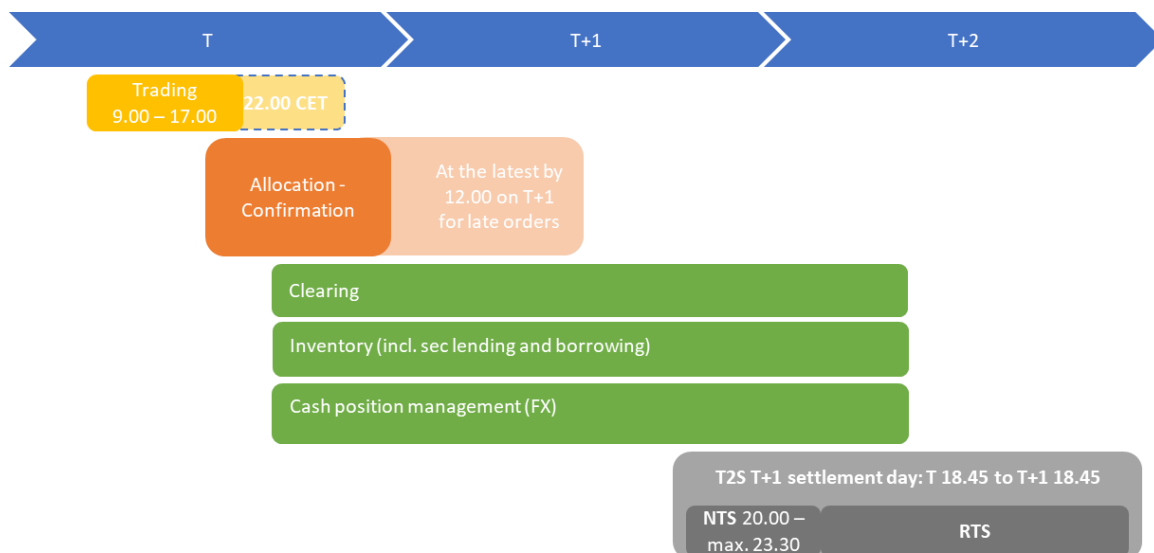
¹⁴ See Annex II hereto.

¹⁵ OJ L 230, 13.9.2018, p. 1–53, http://data.europa.eu/eli/reg_del/2018/1229/oj

¹⁶ ESMA guidelines on standardised procedures and messaging protocols under Article 6(2) of Regulation (EU) No 909/2014 (https://www.esma.europa.eu/sites/default/files/library/esma70-151-2906_guidelines_on_csdrt_art_6_en.pdf)

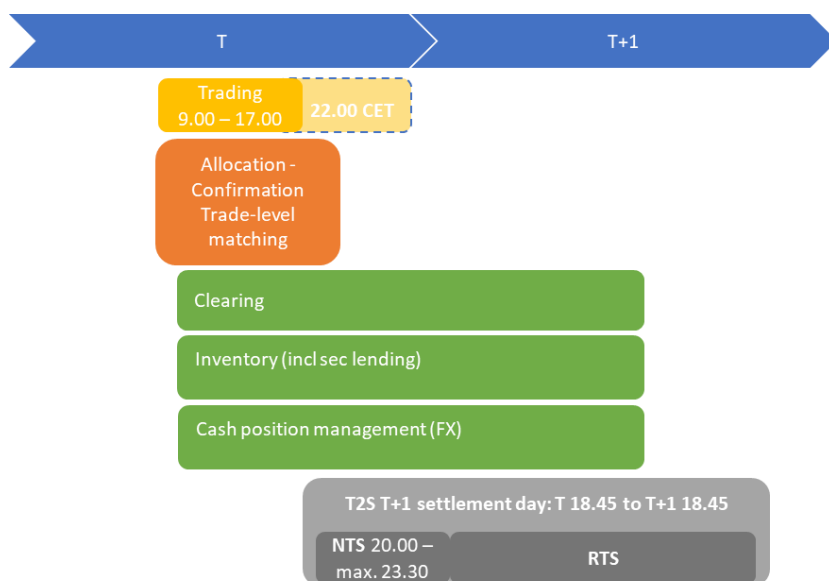
29. This means that the different processes and interactions required between the different stakeholders, organised in the layers mentioned above (trading, clearing and settlement) have to happen between the moment in which the trade takes place (T) and the end of the second business day following the conclusion of the trade (T+2), as illustrated in Figures 2 and 3 below (where we have used the T2S settlement schedule as an example, noting that other settlement schedules exist in the EU):

FIGURE 2: SIMPLIFIED OVERVIEW OF CURRENT T+2 SETTLEMENT CYCLE, BASED ON CURRENT PROTOCOLS AND ON CURRENT T2S SETTLEMENT SCHEDULE



Source: ESMA

FIGURE 3: SIMPLIFIED OVERVIEW OF A POSSIBLE T+1 SETTLEMENT CYCLE, BASED ON CURRENT PROTOCOLS AND ON CURRENT T2S SETTLEMENT SCHEDULE



Source: ESMA

30. For more details on the pre-settlement processes, please refer to paragraph (2) of Section 3.1.3.1 below. Note that Figure 3 describes a possible workflow to achieve T+1 without changes to the existing protocols and does not consider a potential extension of the NTS or increased settlement volumes in RTS.

31. Having considered the complexity of the trade lifecycle in terms of processes and stakeholders involved, as illustrated in the two above figures, the trading and post-trading environment in the EU and the EU legal framework, ESMA has gathered settlement data from T2S and from CSDs outside T2S, with the objective of completing the picture of the settlement landscape in the EU, showing the volume and the value of transactions that actually settle on T+0, T+1, T+2 and beyond. ESMA has looked both at the different types of financial instruments and at categories of transactions supposedly more impacted by the shortening of the settlement cycle, i.e. securities lending and borrowing and repo¹⁷.

¹⁷ Based on feedback to ESMA's call for evidence further detailed in the following section of this report. The outcome of this data collection exercise is presented in detail in Annex III hereto.

32. Analysing different types of financial instruments, ESMA notes that despite the complexity of the trade lifecycle, the settlement of transactions on T+1 and even on T+0 is a predominant practice on some asset classes such as sovereign debt, looking both at volume (number) and value of transactions, according to information from T2S as well as from CSDs not participating in T2S.
33. According to information from T2S, other securities, such as shares and ETFs, settle mostly on T+2, both in terms of volumes and values. According to information from CSDs not participating in T2S, the majority of the volume of transactions on shares and on ETFs settle on T+2 (or beyond), while in terms of value, the majority of the transactions on shares settle on T+1 or less and the majority of ETF transactions settles on T+2 or beyond.
34. Furthermore, settlement data for UCITS from both T2S and non-T2S CSDs show that most of the volume of transactions settle on T+2 or beyond, while the majority of the value settles on T+1 or less.
35. Looking at data on the selected transaction types settled on T2S, while in terms of volume the majority of matched settlement instructions settle on T+1 or less, in terms of values the picture is more diverse, with more than 75% of repo transactions settling in T+1 or less, a bit more than 60% of securities lending transactions settling in T+1 or less, and around 35% of securities borrowing transactions settling in T+1 or less. Settlement data from CSDs not participating in T2S, although less detailed, shows that repo transactions settle mostly on T+0, while securities borrowing and securities lending transactions settle mostly in T+1. These shorter settlement cycles are driven by funding requirements of the current T+2 settlement cycle. Compression of the cycle to T+1 would also necessarily compress the settlement cycle of these ancillary trades.
36. Although the scope of transactions covered by the data collection conducted by ESMA is larger than the scope of transactions under Article 5(2) of CSDR¹⁸, this exercise provides a good view of current settlement practices in the EU¹⁹ and gives an idea of the instruments and categories of transactions that might be more impacted by a shortening of the settlement cycle, i.e. those with higher volumes and values being currently settled on T+2 or beyond and repo and securities lending/borrowing settling on T+1 or beyond due to their role in supporting the market making activities (see Section 3.1.3.2 below).

¹⁸ In particular, the granularity of the data does not permit to distinguish between transactions executed in or outside trading venues, while Article 5(2) of CSDR targets the former ones only.

¹⁹ Cf. Annex III for the detailed assessment of the data gathered.

3.1.2 Shortening the settlement cycle to T+1 or T+0?

37. As already detailed in the Feedback Statement²⁰ and further confirmed through subsequent information gathering exercises, one of ESMA's initial conclusions concerns the extent to which the settlement cycle could be reduced in the European Union in the coming years. Having assessed information gathered, ESMA is of the view that mandating a shortening of the settlement cycle to the same day in which the transaction takes place (i.e. settlement in T+0) would be premature at this stage as T+0 would still have to be defined (the term could cover different processes such as 'atomic settlement' or settlement in batches throughout the trading day or at the end of the trading day) and it would imply limitations to multilateral netting benefits. The costs linked to the changes required in systems and processes to be able to achieve same day settlement, together with the potential limitation of multilateral netting benefits, would at this stage largely outweigh the benefits.

38. Based on this, ESMA has focused its assessment on the possibility and the impact of a move to T+1. However, it is ESMA's view that the conditions in which a move to T+1 would occur in the Union should not prevent a later move to T+0 and that the discussion on the possibility to further shorten the settlement cycle to T+0, including the role that new technologies may play here, should continue following a successful transition to T+1.

3.1.3 Potential impact of moving from T+2 to T+1

39. As illustrated in the data presented above, settling transactions in T+1 in the EU is not only technically possible but also widely used for some asset classes. However, shifting from T+2 to T+1 would mean a significant reduction of the time available for the post-trade processes for those asset classes and categories of transactions which still settle on T+2.

²⁰ [ESMA Feedback Statement](#), ESMA74-2119945925-1959, p. 8

40. Moving to T+1 requires analysing each step of the trading and post-trading processes and the role of every participant, from investors to market infrastructures, in the Union but also beyond, to identify where improvements can be brought to ensure this reduction of time occurs in a safe way so as to avoid increasing operational risks, which could otherwise translate into an increase of settlement fails. This move will therefore entail a significant and combined effort from the industry across the entire transaction chain. As a general observation, it is noted that to facilitate the move to T+1, full automation of post-trade processes relying on international messaging standards (for example ISO 20022) is needed to ensure that slow, costly and manual processes are eliminated.
41. It would also necessitate examining certain market practices, in particular with respect to securities financing and cash position management, to ensure the change would not increase market and liquidity risks. In particular, some funding transactions might need to shift to T+0 to accommodate the shorter settlement cycle.
42. This section describes the impact identified by ESMA, which result from the reduction of the time available to execute post-trade activities on (1) all post-trading processes and on (2) market practices.

3.1.3.1 Impact on post-trading processes

43. As shown before, the lifecycle of a securities transaction involves a high number and variety of market participants, market infrastructures and processes. It appears that a shortening of the securities settlement cycle to T+1 would have an impact at every level, as detailed in this section.
44. Although possible future rules for shortening the settlement cycle will be generally applicable to all types of entities, the potential impact of those rules may differ, depending (among others) on the specific role, risk profile, scope of services and size of the entities involved. Bigger entities may find solutions for adapting market practices or relocating specific services that might be slightly more challenging for smaller firms.

(1) Potential impact on trading venues: trading hours

45. The main European trading venues stop trading at around 18.00 CET (with a few trading venues allowing trading until 22.00 CET), which in a T+1 settlement cycle environment, would thus leave only about 2 hours to investors and intermediaries having executed last minute trades to conclude all post-trade processes for these specific trades and having sent their settlement instructions e.g. for the first T2S NTS cycle which starts by 20.00 CET. However, these settlement instructions can still be sent to T2S after the start of NTS and will be processed in one of the subsequent NTS sequences or even during the RTS phase.
46. A very important percentage of trades executed on trading venues are executed in the last minutes of the trading day²¹. In comparison, US main exchanges stop trading at around 4pm local time while the US night settlement cycle starts at about 8.30pm local time, thus allowing for about 4 hours and a half for completing all post-trade processes in time for a settlement on T+1.
47. On the basis of the current settlement schedules on T2S and of CSDs not participating in T2S, trades executed near the close of the main trading day (i.e. 18.00 CET) risk not being settled through NTS, thus missing the benefits of NTS netting²², if they reach T2S too late to be processed during the second NTS cycle as per current schedule. In addition, these trades would have a higher risk of settlement fails if they do not meet the schedule for RTS the following day.
48. Furthermore, the trading hours in the EU which coincide with trading hours in the US, i.e. towards the end of the EU trading day, tend to present higher liquidity which implies a higher number of trades risking not being able to be settled during NTS.
49. In view of the impact, potential changes to trading hours or to the definition of trading date or to the cutoff time of the NTS of settlement systems should be considered, taking into account the potential impact, including on liquidity and price formation.

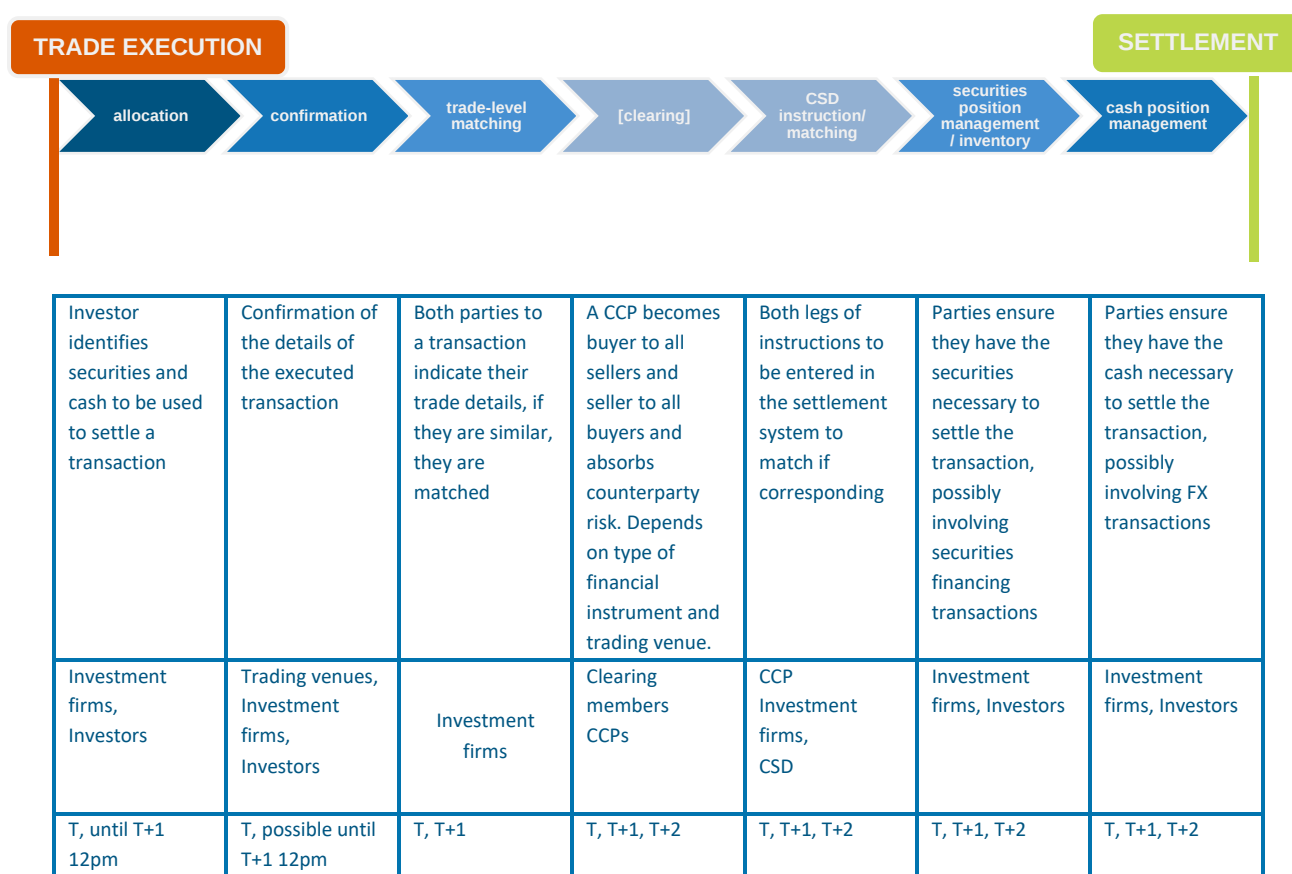
²¹ Taking French markets as an example, the 2024 Markets and Risks Outlook of the AMF indicates the following (p 34): “On Euronext, the marked upward trend in volumes executed at the closing auction already seen at the start of 2019, became much more pronounced in 2023 and early 2024. In March 2024, the fixing accounted for up to 53.6% of trades and 29 CAC 40 components traded more during the fixing than continuously.” <https://www.amf-france.org/sites/institutionnel/files/private/2024-07/2024-markets-and-risk-outlook.pdf>

²² Technical netting is a T2S optimisation feature allowing to reduce needs in terms both of cash and securities. During NTS, technical netting is used by default. During RTS, gross settlement is attempted first and if it fails, a simplified version of technical netting is applied in five batches of a few minutes each. So netting effects are smaller in RTS than in NTS. In addition, a surcharge applies for RTS compared to NTS (with the exemption of the last two hours of RTS).

(2) Potential impact on investors and intermediaries: pre-settlement processes

50. The below Figure 4 depicts the different processes that are necessary, following the execution of a trade, to allow for its settlement at CSD level, and how the multiple stakeholders may intervene at the various steps:

FIGURE 4: PRE-SETTLEMENT PROCESSES



Source: ESMA

51. Currently, only written allocations and confirmations²³ are subject to regulatory deadlines. These allocations and confirmations must be received by the investment firm either:

- by close of business on the business day on which the transaction has taken place where the investment firm and the relevant professional client are within the same time zone;

- or by 12.00 CET on T+1 where (i) there is a difference of more than two hours between the time zone of the investment firm and the time zone of the relevant professional client; or, (ii) the orders have been executed after 16.00 CET of the business day within the time zone of the investment firm.
52. Furthermore, investment firms have to confirm receipt of the written allocation and of the written confirmation within two hours of that receipt, except where these are received less than one hour before its close of business, in which case the receipt of the written allocation and of the written confirmation can be confirmed within one hour after the start of business on the next business day. A move to T+1 questions the continued adequacy of these regulatory deadlines.
53. Compressing the post-trade window means that internal processes as well as communication among all those different stakeholders must be automatised and standardised to the maximum extent possible, if not entirely, for a successful settlement on the intended settlement date.
54. Written confirmations and allocations of trades, matching, but also different adjacent processes for successful settlement, in particular those required to ensure that securities and cash are available for settlement (e.g. position alignments, securities lending, FX trading / settlement), should be further harmonised, automatised and become more efficient. Remaining manual processes must be phased out.
55. This high level of automation should avoid that errors occur or, if they still occur, they should be detected and solved quickly to avoid settlement fails.
56. All stakeholders in the settlement chain should ensure that they can operate with high levels of straight-through processing (STP) and maximum automation. Absent an increased effort in harmonisation and automation of processes by all stakeholders, the risk of settlement efficiency deterioration could materialise when shifting to T+1 and remain in the longer term.

²³ Article 2 and 3 of Commission Delegated Regulation (EU) 2018/1229

57. An EU move to T+1 can also lead to a rationalisation of the post trading environment with improvements for all players as well as with an increase of efficiency of the EU capital market. ESMA is conscious that the required investments into automation might be felt more strongly by smaller players as well as by firms further away from settlement infrastructures in long trading and settlement chains. However, the contemplated increase in operational efficiency should in the medium and long term contribute to more resilient and attractive markets in the EU for the benefit of all and constitutes an objective of its own. These improvements contribute as well to the objectives of the Savings and Investment Union (SIU) and should be pursued without delay.
58. The costs related to the further automation required to operate on T+1 as well as other costs related to T+1 might be passed on to end investors, hence certain financial services might potentially become more expensive in the short term due to these investments, although there is no evidence to prove this.
59. However, in the discussions with ESMA's SMSG, retail investors representatives have highlighted that T+1 will encourage investment firms to invest in more efficient post-trade processes and could ease compliance with obligations in other financial regulations.
60. Furthermore, ESMA also considers that shorter settlement cycles should translate into earlier availability of securities and of funds for retail and non-retail investors, which reduces the settlement risk.
61. Finally, it should be noted that compressing the settlement cycle could give a relative operational advantage to shorter intermediation chains compared to longer ones. Indeed, it should be easier for market participants who use an intermediate acting as their broker, custodian, clearing member, or CSD participant to complete the settlement process quicker because of the ability of such intermediary to internalise the settlement instructions. Therefore, the move to T+1 could potentially foster integration and consolidation of entities performing middle/back-office activities and post-trading processes.

(3) Potential impact on CCPs: clearing processes

62. From an operational and risk management perspective, shortening the security settlement cycle to one business day may also impact CCPs and their members.
63. Initial margins are calculated by CCPs both on an intra-day and end-of-day basis incorporating performed trades and the most current (available) settlement results. These margins are covered by either securities collateral or through cash collateral.

64. Some CCPs outlined that the latest intraday margin call is performed before the closing of the trading day. As a result, late trading (e.g. closing auction) would not be included in the (intraday) CCP margin calculations. Consequently, intraday margin calls might need to be rescheduled or adjusted as to better account for trades and settlement fails under a T+1 regime. Therefore, the cut-off times of the relevant payment and collateral systems might need to be assessed, in consultation with all relevant stakeholders.
65. Under a T+1 settlement cycle, trades executed during the day would be sent to a settlement platform directly after the closing of the trading day. In situations where securities transactions will have settled during NTS between trade date and T+1, the calculation times and operational processes may have to be reconsidered as to include these in intraday and end-of day margin calls in a timely manner.
66. Further, CCPs usually net the securities trades before submitting settlement instructions to CSDs. In order to achieve the highest possible netting benefits, CCPs produce this netting once they have received the information on the latest securities trades of the day. In cases where trading is possible beyond the cut-off for NTS, there would be a high risk that settlement instructions from a CCP are not processed within NTS (they could still be settled during RTS, but not benefitting from the advantages linked to NTS).
67. Finally, a reduced settlement cycle compresses the time available to CCPs to process and instruct the daily netted amounts, with increased operational risks. CCPs might therefore have to make certain operational adaptations to ensure they can operate safely in a T+1 environment, such as changing the timing under which they send information to clearing members to allow them to reconcile positions. However, clearing is highly automated, and this should help managing these risks.

(4) Potential impact on CSDs, their participants and T2S: settlement processes

68. Once the clearing process has been completed, if any, settlement instructions are transmitted to the relevant SSS. Such settlement instructions include for instance the following information: type, intended settlement date, trade date, if applicable currency, settlement amount, etc. They shall comply with the format required by the SSS that may differ amongst EU SSSs. They are compared and if they correspond, they are matched in order for settlement to occur, the EU settlement system being a “matching system” (where the matching of the two settlement instructions of a transaction is a precondition for settlement) – by opposition to “affirmation systems”²⁴ (such as the US system) requiring market participants to “affirm” trades in order to allow for settlement.
69. A T+1 settlement cycle will require compressing the time currently used to solve any issues or errors in the settlement instructions (e.g. wrong quantity of securities mentioned in the instruction, wrong place of settlement indicated in the instruction, wrong format of the instructions). To ensure accurate settlement instructions reach the CSDs, more standardisation and automation will be needed at this level too (e.g. through the use of ‘standard settlement instructions’ (or SSIs) or of a centralised SSI repository)²⁵.
70. Further, SSSs might have to adapt to a possible shift in the distribution of settlement volumes. Indeed, in a T+1 environment, from a T2S perspective (based on the current settlement schedule), some pre-settlement processes would have to be finalised by 20.00 CET on T to settle in the NTS phase, or later, e.g., on time for settling in the RTS phase on T+1 until the respective T2S cut-offs (16:00 for delivery versus-payment (DVP) settlement or 18:00 for free-of-payment (FOP) settlement).

²⁴ In an affirmation model one of the counterparties might be considered as approving the trade by default, although it might also be given the possibility to define exceptions and the officially approve.

²⁵ Source: [ESMA Feedback Statement](#), ESMA74-2119945925-1959, p. 14

71. While in the current T+2 environment the volume of transactions settled in T2S are almost equally distributed between NTS and RTS²⁶, a transition to T+1 would most likely lead to a higher volume of settlement flows to be submitted and/or settled later than what is the case today in the T2S settlement day. In this scenario, the volume of transactions settling in the RTS phase could increase and the capacity of T2S to absorb higher settlement volumes in this phase, would need to be assessed. However, this time delay cannot be ascertained at this stage as it will depend on how market participants modify their behaviour and processes in view of a move to T+1. In this respect, feedback ESMA has received from CSDs in jurisdictions having already transitioned to T+1 suggests that the balance between NTS and RTS has remained stable after the move to T+1, probably because of the changes implemented to settlement schedules, giving more time for post-trade processes such as allocation, confirmation and matching on trade date.
72. To facilitate the move to T+1 while mitigating a possible increase of operational risks, possible modifications of current settlement processes and optimisation tools have been mentioned by various market stakeholders in the feedback received to ESMA's call for evidence and in the contribution from the T2S governance to this report (e.g. the possibility to delay or extend the NTS, the generalisation of certain functionalities such as partial settlement, partial release or automated shaping ²⁷). Their implementation could require changes at the level of CSDs and at the level of T2S. ESMA has in particular been made aware that the assessment of the need for the CSDs and/or for T2S to make any major functional adaptation, to extend the use of current settlement optimisation mechanisms and tools, or to develop new ones for the sole purpose of transitioning to T+1 will need to be finalised soon as a matter of urgency, in the first phase of the Roadmap proposed in Section 3.3.4. of this report.

(5) Corporate actions processing

73. A corporate action is an action or event decided by the issuer of a security which has an impact on the holders of that security (e.g. dividend/interest distributions, redemptions and reorganisations). Depending on the type of the corporate event, participation may be optional (e.g. they may have the right to purchase more securities subject to conditions specified by the issuer) or mandatory (e.g. a coupon payment). The issuer should inform the issuer CSD of the details of a corporate action as soon as it has been publicly announced. This information must then reach the end investor through the chain of CSDs and relevant intermediaries.

²⁶ Source: [ECB T2S annual report 2023](#) (52.35% vs 47.65%)

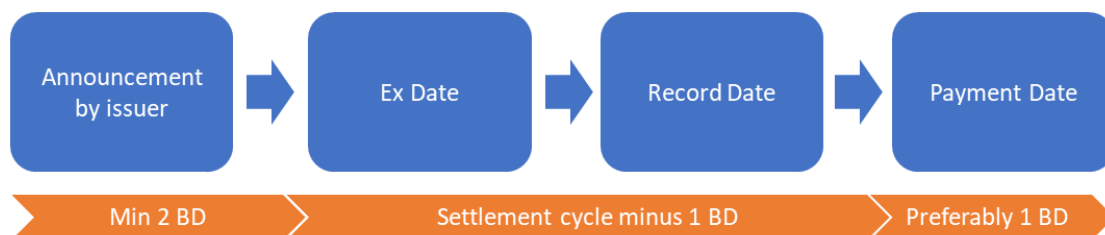
²⁷ Splitting a settlement instruction with a large cash nominal value into smaller ones.

74. Market conventions and standards are defined at European level to process corporate events. These standards include the definition of key dates for the processing of corporate events, including among others the dates relating to mandatory events such as:

- “ex-date” (date from which the underlying security is traded without the benefit / right attached to it),
- “record date” (date on which settled positions are struck in the books of the issuer CSD at close of business to determine the entitlement to the proceeds of a corporate action),
- “payment date” (date on which the payment is due); and the dates for elective events, such as “guaranteed participation date” (last date to buy the underlying security with the right attached to participate in an elective corporate action), and
- “buyer protection deadline” (last day and time by which a buyer protection²⁸ instruction can be given).

Figure 5 shows a sequence of key dates for a mandatory corporate event:

FIGURE 5: CORPORATE ACTIONS - SEQUENCE OF DATES FOR MANDATORY EVENT - CASH AND SECURITIES DISTRIBUTIONS



Source: ESMA, DACSI

75. As shown above, all of these dates are defined by reference to the settlement cycle duration, e.g. the current EU market standards mandate that the gap between “record date” and “ex-date” is one business day (BD) less than the standard settlement cycle (i.e. in a T+2 environment, on T+1). In a T+1 environment, this will mean that “ex-date” and “record date” would be the same day (on T+0).

²⁸ Buyer protection is a process whereby a buyer who has yet to receive the underlying securities of an elective Corporate Action, instructs the seller in order to receive the outturn of his choice. Cf. https://www.ecb.europa.eu/paym/target/t2s/governance/pdf/casq/ecb.targetseccasq130316_T2SBuyerProtectionStandards.en.pdf

76. When there is a settlement fail at record date, the seller maintains the right attached to the security; to compensate for that, where the right is an economic one (e.g. a dividend) the buyer can start a market claim in order to receive a monetary compensation corresponding to the lost right. Where the right is an administrative one (e.g. the right to attend the shareholders general meeting), there is no compensation.
77. Corporate event standards will need to be assessed to ensure that they can be processed safely in a T+1 environment – in particular to ensure that they would not result in increased market claims and that there are no other undue consequences for investors. Any updated standards would need to be implemented by the market in time for a migration to a T+1 settlement cycle. As evidenced by the last review of the application of market standards for corporate events carried out by AMI-SeCo, 29 EU CSDs were found not fully compliant²⁹. It is essential that market standards in relation to corporate events, in particular the AMI-SeCo standards, are applied and complied with by all relevant stakeholders, more so in a context of faster settlement in which increased harmonisation will be required in this and other areas. It is therefore expected that the market will take steps to fully implement the standards in time for a move to T+1; regulatory action could be considered to reduce the risk of continued non-compliance with the most relevant market standards (including the related ISO 20022 messaging standards) and thus to contain the risk of an inefficient and unsafe transition to T+1.
78. Further complexity appears for corporate actions on securities which are traded both on European and non-European trading venues, where the settlement cycles of the two markets are different (e.g. US and EU trading venues). In this respect, the US move to T+1 has created a misalignment of the ex-dates of corporate events of securities listed or traded in both jurisdictions. Such misalignment is not being managed by EU market players in a harmonised way, which leads to a difference of treatment of holders depending on the method chosen by the involved CSD. A realignment of the settlement cycles between the Union and the US would solve this issue.

²⁹ See https://www.ecb.europa.eu/press/intro/publications/pdf/ecb.amiseco202312_corporateevents.en.pdf?c40151f5b947a4edb6c7d0a63fa3fd3b

(6) Potential impact on asset management/funds, including ETFs

Shortening the settlement cycle will impact funds in different ways

79. A shortening of the settlement cycle of the underlying securities could create issues for all funds, related to the mismatch between the settlement date for the underlying securities bought/sold by the fund manager for the fund/ETF and the date of subscription and redemption made by the fund/ETF's investors, i.e. there might be a gap between the date on which the cash has to be invested by the fund to buy the underlying securities and the date on which the fund will get the cash to be generated by selling fund's assets to pay back the investor who made the redemption. Funds typically buy on the promise of cash coming in, not with cash actually in the bank account, and the T+2 securities settlement cycle allows to bridge the gap. Compressing this settlement cycle would put pressure on computing NAVs and moving the cash around.
80. To avoid such issues, asset managers might have to rethink the subscription and redemption cycles of their products, which could be complex, especially in the case of retail and cross border investment into funds (e.g. a Dutch retail investor buying an Irish fund managed by a French asset manager from a small Italian bank). This mismatch has other impacts on the fund, in particular with respect to e.g. the investment limit of the portfolio, the performance of the fund and any comparison with its benchmark, especially for funds/ETFs managed with low tracking error volatility or passive strategies.
81. Furthermore, operational processes between the fund manager and its associated parties, e.g. the depositary bank, might also have to be reviewed because of the shortening of the settlement cycle. This is particularly relevant for the NAV calculation process, which might be particularly challenging for UCITS held by non-EU investors from different time zones. In particular, less time to process trade information and instruct settlement might force overtime, night shifts and even relocation of back-office activity, with increased costs for EU funds.

Moving to T+1 poses specific concerns to ETFs³⁰

82. The settlement efficiency of ETF transactions is already lower than for other asset classes³¹ for a number of reasons and suggests that the efforts required to operate in T+1 might be heavier for the asset management industry than for other types of stakeholders.
83. This inefficiency is mainly due to two causes: the abovementioned funding gap, which is exacerbated for these securities, and the fragmentation of their trading and settlement.
84. First, it is due to the fact that ETF trades happen in the secondary market (at broker level), following subscriptions and redemptions happening in the primary market (at transfer agent level), with an issuing date that can go up to T+3 or T+4. Therefore, when the ETF shares must be for instance created for the transaction on the secondary market, the delay in the creation results in settlement fails in the secondary market. Shortening the settlement cycle to T+1 would reduce the time available for the settlement and would amplify the delay between secondary and primary markets.
85. Shortening the ETF new share issuance cycle to T+1 in parallel with the securities settlement cycle in the EU could therefore improve the settlement efficiency, resolving the first structural cause of delay mentioned above.
86. Furthermore, ETF settlement inefficiency is also due to the high fragmentation of the trading (ETF shares are often traded on multiple exchanges) and settlement³² of ETF shares and their lower liquidity³³ compared to shares.

³⁰ As already mentioned before, when it comes to the asset management industry, this report focuses mainly on instruments under the scope of Article 5(2) of CSDR, i.e. exchange-traded funds. However, it is to be noted that the impact described for ETFs might also apply to units in collective undertakings not traded on exchanges.

³¹ As shown in the settlement efficiency data published in ESMA's final report on the technical advice on the CSDR Penalty Mechanism: The aggregated ratios of settlement fails across all EEA CSDs are varied depending on the asset classes, ranging in June 2024: from low levels for sovereign bonds (~2% of the total value of settlement instructions, and ~2.5% of the total volume (number) of settlement instructions) **to very high levels for ETFs (~15% of the total value of settlement instructions, and ~20% of the total volume (number) of settlement instructions).**

³² It is often the case that the issuer CSD of ETF shares is not the CSD where the settlement will take place following transactions on trading venues. This is because ETF issuers usually choose an ICSD to act as issuer CSD while buyers of ETF shares including market makers usually prefer to settle their transaction in the CSD located in the same jurisdiction as the trading venue where the transaction has been executed (usually less costly). This fragmentation renders settlement more complex for ETFs than for equities or bonds, as it requires for the broker / market-maker to check, for each transaction, the content of the SSIs (e.g. to check the place of settlement), prior to sending the SSIs to settlement.

³³ ETF shares are usually less liquid than shares. One reason is that the securities lending offer is more limited for these securities that are not accepted as collateral by CCPs.

87. Investing further in automation and in improving post-trade processes will be essential to ensure that moving to T+1 does not translate into higher settlement fails with the related costs linked to cash penalties (ultimately having a negative impact on ETF performance). Bigger asset managers might be better placed to make the required investments than some smaller players in this industry. A shift to T+1 could potentially entail some consolidation in this industry, although the contribution of T+1 to this consolidation is difficult to assess. In this respect, CSDs might also play an important role to enhance and ease cross-border settlement and reconciliation processes.
88. Furthermore, in the case of ETFs, but also non exchange traded UCITS and AIF, the creation and redemption processes of shares of funds invested in jurisdictions not yet operating on T+1 will represent a challenge. If a fund manager has to deliver on T+1 the share of a fund invested in securities which settle on T+2, the transaction on the fund share is likely to fail to settle.
89. On the contrary, as explained in ESMA's Feedback statement³⁴, ETFs operating in a T+2 jurisdiction but invested in securities from a T+1 jurisdiction face significant challenges related to the need to cover the funding gap created by the need to purchase the security on T+1, but only receiving the funds from the investor on T+2. Further anecdotal evidence has shown that since the shift to T+1 in North America, investing in US securities has become more expensive for ETF fund managers as they need to cover a longer funding gap. This has even resulted in what has been identified by the industry as the "Thursday effect". Investing in US securities for ETFs manufacturers is becoming more expensive on Thursdays due to the need to cover a funding gap from Thursday until the following Monday. Therefore, according to feedback received by ESMA, there seems to be a significant drop in investments on Thursdays.
90. Aligning the settlement cycle in the EU with other major jurisdictions such as the US and the UK should have a positive impact on ETF asset management companies, as the mentioned funding gap would disappear. Also, the global trend towards T+1 would imply that a misalignment of a similar scale with other jurisdictions which would remain on T+2 is rather unlikely. However, this will not address the other above-mentioned issues affecting the settlement efficiency of this type of instruments.

³⁴ https://www.esma.europa.eu/sites/default/files/2024-03/ESMA74-2119945925-1959_Feedback_statement_of_the_Call_for_evidence_on_shortening_the_settlement_cycle.pdf

3.1.3.2 Impact on trading and markets practices

(1) CCP margins

91. Clearing is generally a step of the post-trade process of exchange traded securities transactions³⁵ (depending on the type of financial instruments and the rules of the trading venue), through which a CCP becomes the buyer to any seller and the seller to any buyer, absorbing market and counterparty risks by requesting initial and variation margins from its clearing members.
92. Initial margins are designed to cover the estimated loss related to the drop in the market value of the defaulting member's position, in the event of a liquidation of the defaulting member's portfolio covering the assumed liquidation period. Variation margins are designed to cover an adverse market movement of the price of a security, which has been traded but not yet settled.
93. Reducing the duration of the securities settlement cycle should result in a positive impact for counterparties, CCPs and markets in general, reducing market and counterparty risk. Counterparties will be exposed to adverse markets movements for a shorter period of time which means a reduction in the counterparty risk.
94. More specifically for CCPs, reducing from two business days to one business day the time during which the CCP covers those risks results in lower margins and thus cost-savings, which could translate into more liquidity available in the market.
95. Further quantitative evidence on this issue is provided in the following section of this report on the costs and benefits related to T+1.

(2) Securities position management: securities financing transactions

96. For a transaction to settle on time, the securities and cash should be available on the intended settlement date. The time between the execution of the transaction and the settlement is used to ensure that securities and cash (in the correct currency) can be delivered, at the right place.

³⁵ Clearing depends on the type of transaction and related security, for example while most exchange traded equity transaction are cleared, many OTC transactions are not cleared.

97. Securities lending is a key tool used, among others, by market makers to ensure that they have the necessary securities as they provide liquidity to the market by posting buy and sell quotes. Indeed, to minimise costs and position risks, market makers do generally not hold a relevant amount of the securities on which they provide services. This means that when they sell a number of securities greater than those held in their inventories, they borrow the missing securities on the stock lending market (usually for shares) and/or via the repo market (usually for sovereign bonds). Market makers will need to adjust their operations to meet the shorter settlement timeframe when they borrow securities, which might translate into increased collateral buffers and higher pressure on demand, and therefore cost.
98. From the perspective of the lender (e.g. a fund), when a security which has to be settled is lent or repoed out, the lender has to recall and receive the security on time for the main transaction to settle. If lenders fear not being able to receive securities on time to ensure the settlement of a transaction, liquidity in securities lending markets could potentially decrease, negatively affecting the ability of market makers to provide liquidity to the market.
99. If the necessary investment in increased automation is not done by stakeholders and the market practices in relation to securities lending and borrowing and repo do not evolve and improve to adapt to a shorter settlement cycle, there may be a decline in securities lending liquidity and in repo which could have a negative impact on the liquidity of markets.

(3) Cash position management: FX transactions

100. As far as foreign currencies are concerned, T+1 might be challenging in situations where it is necessary to convert currencies through an FX transaction for securities which are settled against a currency different to the one held by the buyer.
101. FX issues already arise today: while the euro is the official currency of 20 EU Member States, 10 other currencies are used in the EEA. Each country has its own local currency cut-off time for same-day currency payments, which determines whether an FX transaction can be settled on time. In a situation where there is one business day less to settle the securities transaction, this might represent a challenge in particular for investors in different time zones and for less liquid currencies (which can be the case within the EU for BGN, CZK and HUF).

102. For some European currencies (EUR, DKK, HUF, SEK), CLS³⁶ can be used by counterparties to exchange currencies. The use of CLS and the Payment versus Payment (PvP) solution that it provides for foreign currency trading reduces settlement risk (the risk that one of the counterparties does not receive the required currency on time and allows for netting).
103. FX transactions are usually booked once the details of the securities transactions have been confirmed. In practice, this means that oftentimes the FX transaction is executed on T+1 and is settled on T+2 together with the securities transaction.
104. In a T+1 environment, FX transactions should be executed earlier for the securities transaction to settle on the business day following the execution of the trade. The use of CLS might be more challenging in this environment.
105. For investors based in a different time zone (in particular in Asia) investing in EU securities settling on T+1, to be able to settle in EUR (or any other relevant European currency), an adjustment of their processes is required, and different solutions might be available, as shown by the US experience on T+1 for EU investors: prefunding, executing FX trades before confirmation of the securities transaction, bilateral FX trading, auto forex and other solutions provided by third parties such as custodians. ESMA understands that these solutions would entail additional costs for these investors compared to the current situation, which could translate into increased spreads.
106. It should be noted that following the shift to T+1 in the US, some market practices seem to have evolved to ensure that FX trades are executed on time for the settlement of transactions in US securities labelled in USD. Nothing seems to indicate the materialisation of any negative impact on FX markets³⁷. ESMA is conscious that the situation should continue to be monitored in the near future.

³⁶ Continuous Linked Settlement (CLS), a private financial infrastructure, which operates the global central multicurrency cash settlement system, used to settle foreign exchange transactions on a payment versus payment (PvP) basis, currently in 18 eligible currencies and on a T+2 cycle. CLS offsets positions in different currencies against each other and completes the final stage of foreign exchange transactions.

³⁷ <https://www.cls-group.com/news/update-on-the-impact-to-clssettlement-following-the-move-to-tplus1-for-securities-settlement-in-the-us/>

3.1.4 Conclusion

107. Shortening the settlement cycle to T+1 will constitute a significant reduction of the time available to perform all the processes required for the settlement of a securities transaction.
108. All markets and all stakeholders will be impacted, although to different extents. Nowadays, T+2 is only a maximum deadline and as shown by the settlement data assessed by ESMA, some instruments already settle in T+1 or even on T+0 in high volumes. Still, the shift to T+1 will not be exempt from challenges for market infrastructures, intermediaries, asset managers and other stakeholders involved in the settlement of securities transactions. In this respect, the impact on people management and staff, including extension of working hours and relocation or externalisation of activities to other time zones, in particular for middle/back-office activities and post-trading processes, could be envisaged by some stakeholders as a short-term solution or even permanently. It is important though that investments are also made in automation.

3.2 Assessment of the costs and benefits of shortening the settlement cycle in the Union

109. When assessing the costs and the benefits of shortening the settlement cycle in the EU, ESMA has faced some challenges due to the lack of quantitative evidence on some important elements such as the exact amount of the benefits related to the alignment with other jurisdictions and the costs that the system upgrades necessary to shift to T+1 will imply. Therefore, ESMA has focused its assessment on the quantitative evidence obtained from CCPs in relation to the reduction of open positions and margin requirements and has complemented this with a more qualitative assessment on other elements for which there was no reliable data by the time this assessment was completed. Yet, it is noted that there are substantial benefits that cannot be directly quantified. For example, there will be overall benefits for the economy as a whole that will materialise through higher degrees of harmonisation, standardisation, automation - and thus further market integration (strategic for the SIU).

110. Finally, ESMA has also looked at other elements which deserve attention in the framework of this cost and benefit assessment, in particular: the current level of settlement efficiency and the amount of cash penalties, and the observed evolution of securities lending markets in the US after the shift to T+1 on 28 May 2024. Although from the information available to ESMA, it is not possible to establish if those two additional elements will represent costs or benefits, given the concerns raised to ESMA by stakeholders, it seemed important to include them and to continue their monitoring after the publication of this report.

3.2.1 Expected benefits of shortening the settlement cycle

3.2.1.1 Reduction of open positions and of CCP margin requirements

111. One of the benefits of T+1 settlement is the reduction of the time during which positions on cleared securities transactions on securities remain open and hence a reduction of the risk exposures subject to CCP guarantee and therefore of CCP margins.

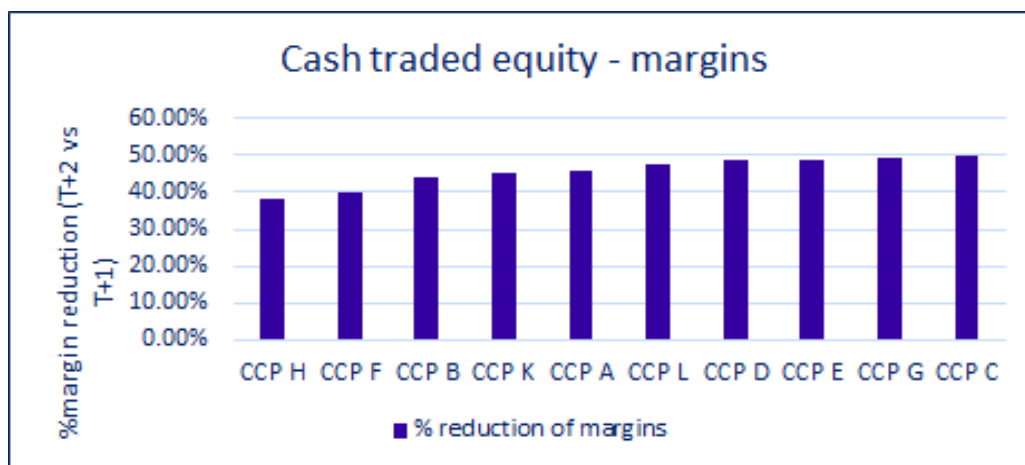
112. In order to have a detailed measurement of the impact of T+1 on open positions and on margins, ESMA collected targeted quantitative evidence from 11 CCPs (those relevant for the EU securities³⁸ markets). This evidence has been complemented with information received through the ESMA Call for Evidence. ESMA concludes that cleared positions are significantly reduced in a T+1 environment. Positions are expected to reduce by 47%. This results in reductions of positions of approximately EUR30bn for equity related products and EUR25bn for bonds. Those are positions that would no longer need to be guaranteed by CCPs.

113. The reduction of positions results in significant initial margin reductions across bond and equity markets, freeing up liquidity for clearing participants active on these markets.

³⁸ For paragraph 5.2.1 "securities markets" is defined as transactions in financial instruments (cash equity, bonds ETFs, etc) cleared by CCPs that are traded on "cash" market i.e. buying and selling of the relevant securities and excludes any cleared Securities Financing Transactions

114. The results of margin simulations performed by CCPs exhibit margin reductions due to T+1 across all relevant products amount to 42%³⁹ of margin requirements, which could represent an amount of EUR 2.4bn⁴⁰ of margins that the relevant CCPs would not call on a daily basis in a T+1 environment.
115. When looking more into detail, approximately 80% of the benefits are linked to equity and the remaining 20% are mostly linked to government bonds⁴¹. Results vary slightly across markets and CCPs, but overall show a consistent picture of reductions between 38% and 49% (see Figure 6).

FIGURE 6: MARGIN REDUCTIONS PER CCP



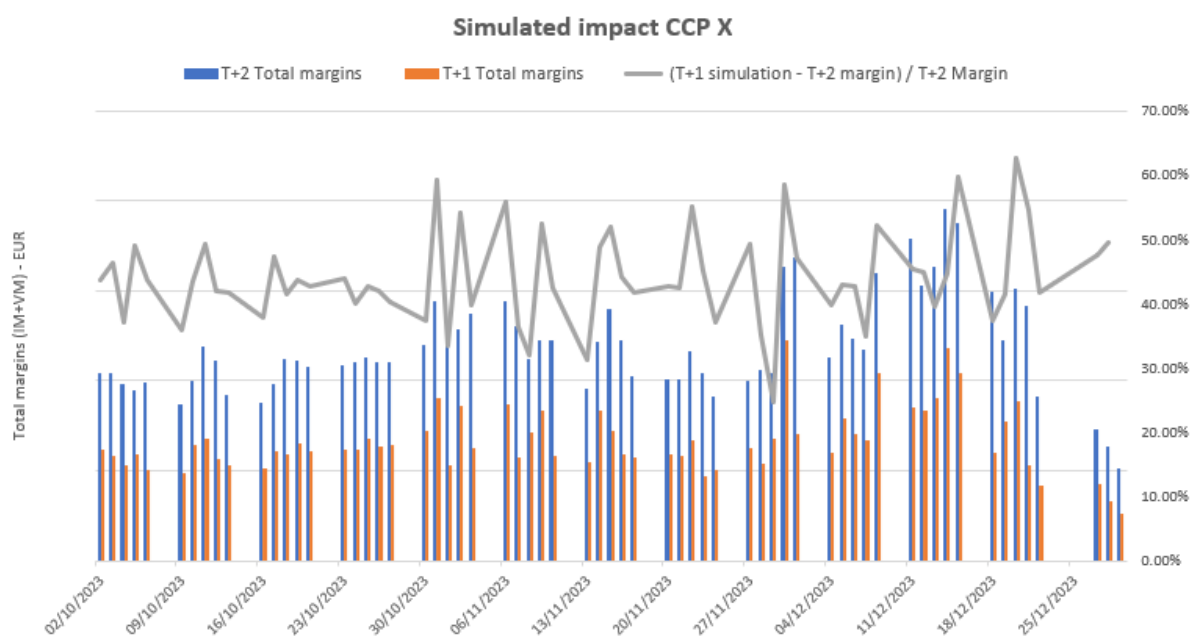
116. The largest margin savings are expected to occur during expiration dates and days with high trading volumes. Margin reductions differ on a daily basis with the highest reductions of margins (up to 70%) on days with extraordinary trading activity or on days when the monthly/quarterly exercise of option contracts takes place. Figure Y illustrates this for a sample CCP during the fourth quarter of 2023, with expiration days on the last trading days of the month.

³⁹ Results are consistent with those seen for US markets, where a reduction of 41% was forecasted in the volatility component of the NSCC margin and > 3Bn USD was returned.

⁴⁰ Total amount is the result of a simulation of margin reductions using historical positions. Most CCPs performed this simulation over a 3-month period; one CCP used 20 days. A 2.7Bn reduction was reported during the public hearing on 10th of July but one CCP reported later that a part of the relevant margin savings were linked to non-EU products.

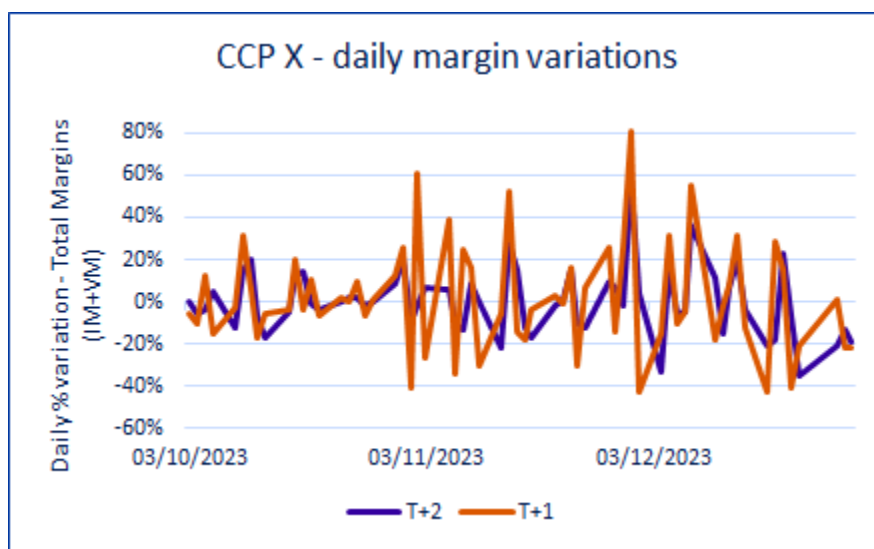
⁴¹ The percentage share of reductions in equity markets is taken from all the CCPs that have specified the margin savings per specific market. One large CCP has provided a contribution outlining a significant margin reduction (20% of total) but did not specify the relevant market.

FIGURE 7: MARGINS SAVINGS Q4 2023 BASED ON CCP SIMULATIONS



117. The simulation results indicate no increase in daily margin calls in absolute terms, however, they indicate more daily variation in the size of the calls. Figure 8 illustrates that under a T+1 settlement cycle the relative change of positions increases compared to a T+2 regime during the fourth quarter of 2023. This would require clearing members of CCPs to take this variety into account in their collateral management. However, as already indicated, despite the potential higher variations, margin calls should not increase in absolute terms.

FIGURE 8: DAY TO DAY CHANGES IN MARGINS DURING Q4 2023 BASED ON CCP SIMULATIONS.



118. ESMA has also looked at the potential impact on margin calls in the eventuality of an increase of settlement fails due to the shift to T+1. The information gathered by ESMA suggests that no significant increase in margins is to be expected under the T+1 scenario due to a higher level of settlement fails. Indeed, given the relatively low current level of failed transaction reported by the CCPs (i.e. below 5%), any increase in fails is not expected to have a significant impact on the simulated margin reductions of 42%.
119. Overall, no critical issues were reported by the relevant CCPs with regard to their ability to manage the shortening of the settlement cycle in their risk management systems. However, some attention points were raised that require monitoring by CCPs and their supervisors upon the shift to T+1.
120. First, a shorter settlement cycle should lead to reduction in liquidity needs due to the reduced size of positions but also less liquid resource due to a reduction of margin. The overall impact therefore remains an item for monitoring. Also, changes in daily stress testing results may lead to a review of the size of the default fund and its calibration. Finally, a change in the settlement cycle may have an impact on intraday and overnight margin calling. As discussed in paragraph 3.1.3.1 intraday margin calls might need to be adjusted and cut-off times of the relevant payment and collateral systems might have to be further assessed by the T+1 governance.

3.2.1.2 Alignment with T+1 jurisdictions

121. Some jurisdictions have already adopted T+1 settlement cycles, including China, India and more recently the US, Canada, Mexico, Argentina, Jamaica and some other jurisdictions (cf. section 4 for more details). This creates a misalignment between the settlement cycle in the EU and in those jurisdictions. While ESMA understands that the misalignment is not entirely new (US Treasuries already settled on T+1 well before 28 May 2024), and that until now this mismatch in the settlement cycles had not been an issue for sovereign bonds⁴², the current misalignment with the US in particular is creating additional costs and frictions for funds, issuers and CSDs in particular.

ETFs

122. Looking at funds, in particular ETFs, as already explained in the Feedback statement and in the previous section of this report, the main cost resulting from the misalignment of settlement cycles is the need to cover the funding gap between the day of the investment in the T+1 securities and the settlement of the ETF share (in T+2). The already described “Thursday effect” (cf. Section 3.1.3.1, point (6)) indicates that the costs of covering the funding gap on Thursdays could have impacted trading patterns. Lower ETF trading volumes on Thursdays have been observed by the industry, with a reduction of primary market trading on those days. In ESMA’s view, if confirmed with a longer look-back period, this impact on ETF trading can only be to the detriment of the EU asset management industry and its competitiveness⁴³.

⁴² The industry had found solutions or managed to limit the impact of the misalignment with the settlement cycle of US Treasuries, through among others pre-funding or alignment of processes.

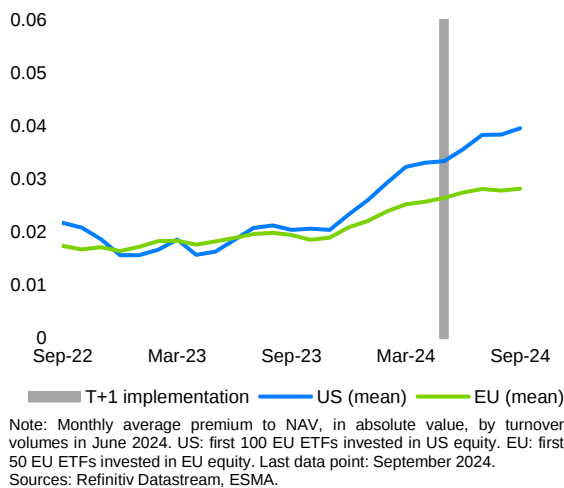
⁴³ See for instance “European fund performance significantly lags behind US peers after T+1. Post T+1 analyses of passive S&P 500 funds show European returns are 14-20 basis points lower than their US equivalents”, The Financial Times, 19 August 2024

123. In order to gain a better understanding of the impact that the misalignment with the US has on ETFs (in particular due to the need for asset managers to cover the funding gap when investing in US securities⁴⁴), ESMA has done a deeper data assessment. During and after the T+1 implementation date, ESMA monitored developments in the EU ETF market by employing commercial data and analysing the premium to NAV of the most relevant EU-listed funds that invest in US equity; in addition, the largest EU-listed ETFs investing in EU equities were also added to the analysis, in order to provide a counterfactual. The analysis covered the largest 100 EU ETFs invested in US equity and the largest 50 invested in EU equity, focusing on the period between September 2022 and September 2024 (last data point considered: 24th September 2024). The analysis focused on premium to NAV to monitor whether the move to T+1 negatively impacted the arbitrage activity on ETFs and the liquidity of these instruments⁴⁵.
124. The liquidity of EU ETFs invested in US equities has declined following the T+1 move. The average premium/discount to NAV of EU ETFs increased in correspondence of the T+1 move and in the months immediately before. Funds investing in US securities showed, on average, a higher premium in June 2024 and in 3Q24 (+22% and +33%, respectively, compared to 1Q24 - Figure 9 below). Benchmarking these developments to premiums of ETFs investing in EU securities, the latter were not as large (+16% and +18%, respectively, compared to 1Q24). Moreover, the premium of ETFs investing in EU securities (2.8%, on average, in 3Q24) reached a level significantly lower than those investing in US securities (3.9%), albeit displaying a slight increase over the observation period.
125. In conclusion, moderate negative impact on liquidity of US-invested EU ETFs have been observed in the months immediately after the T+1 implementation date. This evidence could signal reduced arbitrage activity on these instruments and, consequently, lower liquidity. Overall premiums for EU ETFs increased on average, with relevant upward shifts observed for EU-listed funds investing in US equities. Nevertheless, liquidity deteriorated also for the control group (ETFs investing in EU equities), albeit less significantly. Further analysis is needed to better understand longer-term developments on EU ETF markets.

⁴⁴ This need also applies to non-exchange traded funds.

⁴⁵ Premium to NAV defined as $p_t = \left| \frac{P_t - NAV_t}{NAV_t} \right|$, where P_t is the price of one share of the ETF on date t and NAV_t is the net asset value per share. This measure captures the discrepancies (in absolute terms – be it premiums or discounts) between the market value of the ETF and that of its constituents. When these discrepancies arise, market participants usually engage in arbitrage trades that close the gap between the two prices. The efficacy of the arbitrage mechanism is related to the fund liquidity and that of its constituents - see [Rappoport et al. \(2020\)](#).

**FIGURE 9: PREMIUM TO NAV (AVERAGE)
STEEPER INCREASE FOR US-INVESTED ETFs**



126. The reference period used for this assessment (between the shift to T+1 in the US and the publication of this report) is relatively short. This assessment should in consequence be looked at cautiously. However, when put together with feedback from the asset management industry and ESMA's SMSG, there seems to be grounds to believe that there is indeed a negative impact for the asset management industry ("*and individual investors who often use ETFs as an accessible and lower-cost investment vehicle*"⁴⁶) due to the misalignment of settlement cycles with the US. This negative impact resulting from the misalignment with the US would increase should the UK and Switzerland move to T+1 at an earlier date than the EU. In this respect, it can be noted that, according to EFAMA, among the top ten countries featured in the portfolios of European equity UCITS, the US account for 44%, the UK for 9% and Switzerland for 3%⁴⁷. In the case of bond UCITS the situation is similar, with the US accounting for 28% of the asset allocation and the UK accounting for 10%.

⁴⁶ SMSG Advice to ESMA p. 28.

⁴⁷ EFAMA, [Fact Book 2024](#), p.29

Corporate events

127. Another impact of the global misalignment of settlement cycles concern corporate events. Indeed, as explained in the previous section of this report, the shift to T+1 in the US has resulted in the application of different key dates for corporate events of securities⁴⁸ listed or traded simultaneously in the US and in the EU. EU CSDs and trading venues have opted for different solutions to solve the issue of different key dates, inducing unharmonized practices which bring complexities and risks, further fragmenting EU capital markets. The solutions used so far to solve the impact of the misalignment in relation to corporate events are mainly the two following ones:

- ***Keeping the key dates aligned with the T+2 settlement cycle:*** As a consequence, this implies to have two different key dates for the same security in EU and US.
- ***Adopting the same key dates of T+1 settlement cycles but settling T+2:*** Consequently, this implies a potential increase in market claims since trades concluded on Ex Date-1 (thus still with the entitlement) will be settled after Record Date.

128. Eliminating misalignment is broadly seen as a clear benefit as it would reduce the costs linked to the funding gap for asset managers and the risks and fragmentation created by the application of different key dates for corporate events.

Attractiveness of EU markets

129. Finally, ESMA also considers that, if staying in T+2, EU capital markets would appear outdated in terms of technology, processes and approach to risk management, and therefore less attractive as a place to invest. Under a scenario where a T+1 settlement cycle is becoming the global norm, if the EU waits too long, it runs the risk of opening too great a gap with major markets which even if eventually closed will have inflicted damage on the competitiveness of the EU SIU.

3.2.2 Expected investments and costs of moving to T+1: Increased automation, processes upgrades and other implementation costs for all market participants

130. Adapting systems, processes and market practices to T+1 will require investments at all levels of the settlement chain, from trading and clearing (including intermediaries and funds) to final settlement. However, describing the exact investments and costs has been and remains a challenge.

⁴⁸ Mainly affecting shares, given the more complex and frequent corporate events affecting this type of securities.

131. On the side of market infrastructures, the work on the definition of the exact infrastructure changes continues and will only be finalised later on (cf. section 3.3.4). Therefore, it is very difficult to assess at this stage what will be the estimated investments that will be needed per CCP, CSD or potentially in T2S. As evidenced by the settlement data assessed in section 3.1.1, CSDs and T2S are already capable of settling transactions in T+1 and even on T+0. However, other aspects of their functioning might need to be reviewed to ensure that all stakeholders operate on T+1. This concerns aspects mentioned in other sections of this report, such as the trading and settlement schedules, different functionalities which might be required at the CSDs or T2S, collateral management by CCPs and, potentially, capacity improvements of RTS at T2S.

132. As far as intermediaries are concerned, market players such as broker-dealers, acting on the market, from facing end-investors to executing transactions on market will have to adjust their operating model and in particular will have to automate the way they communicate with their clients and their intermediaries all along the chain from the moment they receive an order to be executed. However, when trying to gather data to assess the costs these market players will face, very few stakeholders have provided figures to ESMA. Those who have done it are mainly credit institutions (one local medium-sized credit institution and the other one belonging to a big international banking group) and their estimates vary around EUR3m to EUR10m per entity for the implementation, and around EUR0,5m for the on-going cost. Looking at costs estimated by the SEC for the transition to T+1 that would be borne by broker-dealers (i.e. between USD8,74m and USD12.73m⁴⁹), the estimates provided by the respondents to ESMA's call for evidence seem realistic. However, these may vary significantly from one credit institution to another depending on their size, their business, the number of CSDs and CCPs they are connected to and whether previous investments have been done to comply with T+1 in other jurisdictions. Looking at the numbers of participants in the biggest CSDs in the EU⁵⁰, these are around 370 and 530. Taking the highest of these numbers gives a good approximation to the number of custodians that would be affected by the shift to T+1 in the EU. Given the figures provided by respondents to the Call for evidence, the implementation costs for this entire segment of the industry could represent between EUR1.6bn and EUR5.3bn. Still, as already explained, this estimation should be considered with caution as a significant part of these costs is required in any case for the implementation of measures to increase settlement efficiency and the final costs will depend on the elements of the operationalisation of T+1 which remain to be determined.

⁴⁹ SEC Shortening the Securities Transaction Settlement Cycle, Final rule. P. 253 <https://www.sec.gov/files/rules/final/2023/34-96930.pdf>

⁵⁰ Data collected by ESMA directly from CSDs. Reference is made here to direct participants to CSDs established in the EEA and which are not other CSDs or issuers.

133. Finally, another type of stakeholder which will have to invest in order to improve automation and processes to be able to operate in T+1 are asset managers. These actors will be affected by T+1 in two ways: first in their quality as issuers of ETF shares / funds units and second in their quality as buyer/seller of securities on the market (and lender of securities). No information on the level of investments have been provided to ESMA. However, to make sure they can operate in a reduced post-trading window, asset managers will have to do necessary investments and adapt the way they operate today. For instance, process and timing relating to the determination of the NAV of funds may have to be optimized. Considering the current level of settlement efficiency of instruments such as ETFs⁵¹, investment in improving settlement efficiency in relation to this asset class might be significant.

134. This example of ETFs shows as well that many of the changes required to operate on T+1 have as a main objective improving settlement efficiency. Many of the investments required to phase-out remaining manual interventions, investments linked to some of the required market infrastructures functionalities and other changes in the way markets function, respond to the objective of improving settlement efficiency which is already a priority as set forth in CSDR Refit⁵², independently of whether the settlement cycle was shortened to T+1. As such, those investments should not account as costs linked to T+1.

135. On the opposite, on the basis of the evidence gathered, corporate issuers should not face costs from the shortening of the settlement cycle.

3.2.3 Other considerations on settlement efficiency and securities lending

136. As part of the cost benefit analysis, ESMA has also looked at other elements which require attention. These elements are the evolution of settlement efficiency and the impact of T+1 on securities lending and on market liquidity. However, data available to ESMA does not allow to categorise these elements under costs or under benefits with certainty. This is mainly due to the fact that there is no equivalent experience or quantitative evidence which would help indicate with certainty how EU capital markets will evolve following the shift to T+1 in the EU.

⁵¹ As reported to ESMA according to CSDR settlement fail reporting regime, in average 17,32% of the monthly total volume of ETF settlement instructions at EEA level failed between June 2023 and May 2024, representing 19,27% of the value.

⁵² Cf. Recital (6) of CSDR Refit "...Additional measures and tools to improve settlement efficiency in the Union, such as shaping of transaction sizes or partial settlement, should be explored. Accordingly, ESMA should, in close cooperation with the members of the ESCB, review industry best practices, both within the Union and internationally, with a view to identifying all relevant measures that could be implemented by settlement systems or market participants, and develop updated draft regulatory technical standards on measures to prevent settlement fails in order to increase settlement efficiency."

3.2.3.1 Settlement efficiency and cash penalties

137. As part of the assessment of costs and benefits related to shortening the settlement cycle, ESMA has looked at what could be the impact on settlement efficiency of a move to T+1 and what potential costs and benefits could result from an evolution of settlement fails and the corresponding level of cash penalties.
138. In order to do so, ESMA has considered market participants expectations on what would be the impact of T+1 on settlement efficiency and cash penalties as expressed in their feedback to the Call for evidence on shortening the settlement cycle. Although the feedback received was limited, most of the respondents expected that shortening the settlement cycle would entail a deterioration of settlement efficiency levels at least in the short term. Looking further ahead, some respondents suggested that settlement efficiency would improve going back to pre-T+1 levels (and even improve further). A limited number of respondents indicated that lower settlement efficiency would remain.
139. ESMA has also looked at the data available from other jurisdictions that have already undertaken a transition to T+1. The experience of those jurisdictions so far is rather positive. However, drawing on this international evidence presents some limitations. First, no official data was found available for some of the jurisdictions. Second, other jurisdictions have followed a very particular phased-in approach in their transition to a T+1 environment. Third, given the recent move to T+1 in some jurisdictions, there is only evidence on what has been the impact in the short-term. Finally, there are many differences in capital market structures as well in the way of measuring settlement efficiency between the EU and other jurisdictions having already transitioned to T+1. This makes it difficult to transpose the international experience to any possible developments in the EU.
140. Looking at recent level of settlement efficiency and cash penalties in the EEA according to data covering the 12-month period ranging from March 2023 to February 2024, 7.14% of the total number of instructions were registered as settlement fails on average each month. Moreover, the monthly average value of settlement fails at the EEA level was of EUR 2,503,338,368 and the monthly average volume of settlement fails at the EEA level was of 5,385,137 fails⁵³. It is important to highlight that the differences in the way settlement efficiency is measured in the EU and in other jurisdictions makes comparisons very difficult.

⁵³ ESMA Technical Advice on the CSDR Penalty Mechanism includes more information about settlement efficiency data in the EU. This data shows an improvement of settlement efficiency in the EU in recent times.

141. When it comes to cash penalties, in the EU, a harmonized cash penalties mechanism applies in case transactions are not settled on the intended settlement date (i.e. on T+2) at CSD level. This centralised mechanism, implemented by CSDs is quite unique. In other markets, there may also be penalties applied in case of failed transactions, but these frameworks are more contractual or industry standards or may be limited to certain markets or certain types of market players, making the comparison with the EU impossible. The monthly average value of cash penalties over the above-mentioned timeframe was EUR 127,258,663.00.

142. According to the EU cash penalties framework, different variables intervene in the calculation of cash penalties: (i) The formula for the calculation of cash penalties depends on the type of settlement to which cash penalties apply (e.g. delivering securities against payment or DVP, delivering securities and paying cash or DWP, debiting payment free of delivery or DPFOD etc.), (ii) the cash penalty rate depends on the type of financial instrument at stake, (iii) there are specific rules to determine the reference price and (iv) in some instances the official overnight interest rate of the issuing central bank has to be observed. Despite the complexities that this entails when trying to link the evolution of settlement efficiency to the evolution of cash penalties, ESMA considers that, all things being equal, a variation of settlement failures as a result of the move to T+1 would result in a similar variation in the amount of cash penalties. If the shortening of the settlement cycle would lead to an improvement of settlement efficiency, this reduction in the settlement fails would entail a reduction of the amount of cash penalties at the EEA level. If, on the contrary, T+1 would result in a deterioration of the settlement efficiency across the EU market, the immediate consequence would be an increase of the total amount of cash penalties paid at the EEA level. Therefore, a deterioration of settlement efficiency should be avoided.

3.2.3.2 Possible challenges for securities financing transactions and market liquidity

143. Some of the concerns which had been raised by a number of respondents to ESMA's Call for evidence relate to the impact that the shortening of the settlement cycle could have on securities financing transactions, and in particular on securities lending and repo. Regarding securities lending, this impact has been described under section 3.1 of this report and can be briefly summarised as the potential increased pressure on the securities lending market from (1) the demand by market makers to obtain in a shorter timeframe securities that they would not have in their inventories but would need to continue providing liquidity for and (2) the potential decrease in the appetite for lending from traditional lenders (such as asset managers) if they fear that they could not call back in a reduced post-trade window securities that would have been lent out. All of this could result in lower activity, higher cost of borrowing (higher fees) and lower duration of loans.

144. Some of these concerns were also expressed in the responses to the consultation conducted by the SEC on their rules on T+1⁵⁴. In order to learn from the US experience on T+1 and assessed whether these concerns have materialised, ESMA has assessed the evolution of securities lending markets in the US. During and after the T+1 implementation date, ESMA monitored developments in the US securities lending market by employing commercial data⁵⁵ and analysing a comprehensive set of indicators representing various dimensions of market activity⁵⁶. The analysis covered US-issued instruments belonging to the major asset classes impacted by the change in settlement cycle (i.e. equity instruments, corporate bonds⁵⁷ and ETFs), focussing on the period between 20 February and 20 August 2024. Despite being already settled at T+1, US issued sovereign bonds were also added to the analysis, in order to provide a benchmark on general developments on securities lending markets (possibly unrelated to the T+1 implementation). The period was chosen to monitor potential short-term developments around the T+1 implementation date; however, to improve the robustness of the analysis, a wider time series was considered (even though not always shown in this document). In terms of dimensions, the analysis focused on volume-based indicators (i.e. number and value of loans, utilisation rate), on price indicators (i.e. loan fee) and on maturity (i.e. loan tenure).

⁵⁴ <https://www.sec.gov/files/rules/final/2023/34-96930.pdf>

⁵⁵ The *FIS Astec Analytics Short Lending Data* is collected from global custodians and dealers and contains securities lending information at instrument level. The data does not provide insights on the identity, or the location of counterparties involved in these trades, nor on the platforms of execution of such trades. Detailed information on the database is available here: <https://data.nasdaq.com/databases/SLD>.

⁵⁶ **Loan fee (intrinsic rate)**: measure of the 'cost to borrow' a security, excluding any costs that a borrower would face to fund the collateral requirement, and with no regard to any investment premium that a lender would earn on cash collateral. This is calculated as a blended weighted average of (a) fees on non-cash loans and (b) spreads between rebate rates on cash loans and the prevailing overnight interest rate for the currency.

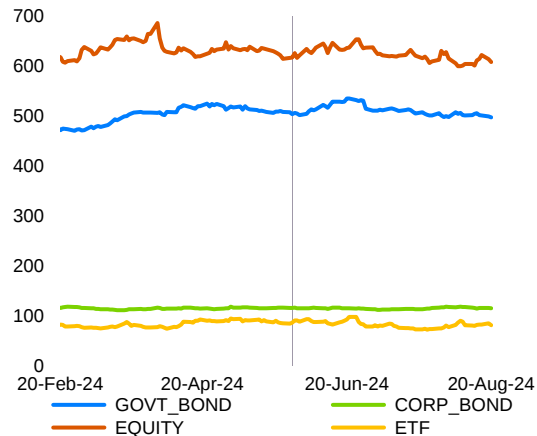
Tenure: the number of calendar days that have passed since the day the loan was opened.

Utilisation rate: the ratio of the number of shares on loan over the number of shares available for lending. It represents the market demand to borrow a certain security.

⁵⁷ Commercial paper was excluded from the analysis, as outside of the scope of the regulation.

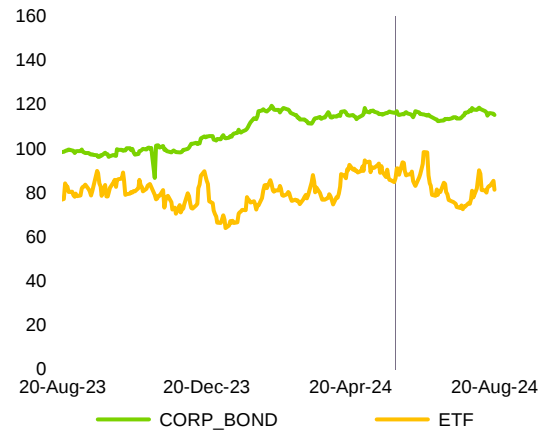
145. The analysis shows that the overall number and value on loan of US securities remained stable around the move to T+1 and in the months immediately after (Figures 10 and 12). No sudden shifts were observed around the implementation date; the value of equity loans showed a slight decrease, on average, during the week starting 27 May 2024 (-1.5% compared to the May 2024 mean), albeit with levels comparable to historical values (+0.4% compared to the 1Q24 average). In June 2024, outstanding values of equity loans increased compared to 1Q24 (+3%). The utilisation rate, a complementary measure of activity in the securities lending markets, did not display relevant changes across asset classes, with the exception of ETFs (Figure 13). In terms of pricing, the average loan fees remained broadly stable and in line with historical levels in the initial phase following the T+1 implementation (Figure 14). Finally, no significant shortening of average loan duration was observed in the short term (Figure 15).
146. Focussing on ETFs, the last week of May and the first week of June 2024 saw a minor increase in the value and number of outstanding loans (Figures 11 and 12). Overall, the value of ETFs on loan, despite showing higher volatility, remained in line with long-term levels (Figure 11). Total utilisation rate for ETFs increased by 1 percentage point between the 28 and the 29 of May 2024 (in levels, a shift from 17.5% to 18.5%); however, such levels remain in line with past historical values. Furthermore, a minor increase in ETF lending fees was observed around end-May and early June: +5bps in first week of June 2024 compared to the May average (Figure 14).
147. None or minor impact on securities lending activity of US-issued instruments were identified with respect to the T+1 implementation. Considering a longer period of analysis, starting from late July 2024 equity loans showed slightly shorter average duration and higher lending fees (Figures 14 and 15). These movements, along with a slight increase in outstanding loans, are possibly linked to negative equity market performance in early 3Q24.

FIGURE 10: VALUE ON LOAN – STABLE TREND ACROSS ASSET CLASSES



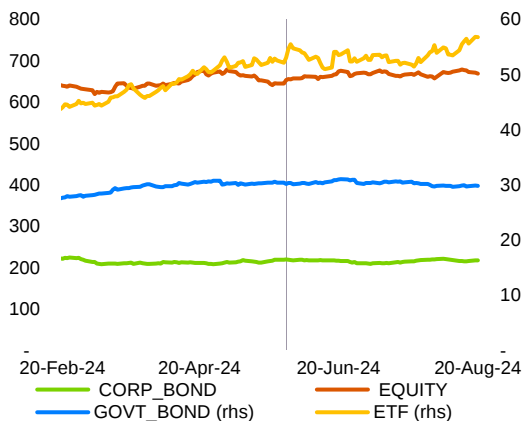
Note: value on loan of securities issued in the US, by asset class, in EUR bn. The gray bar corresponds to 28th May 2024.
 Sources: FIS Astec, Quandl, ESMA.

FIGURE 11: VALUE ON LOAN – FOCUS ON CORP. BONDS & ETFs



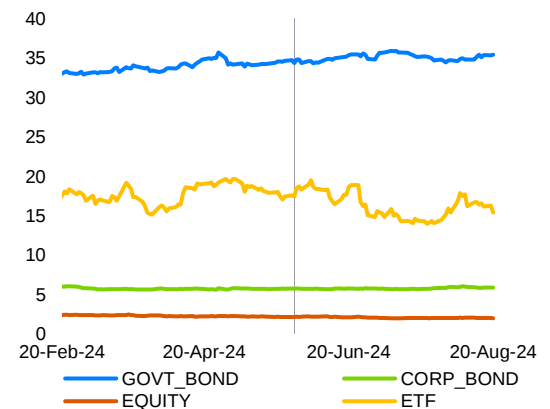
Note: value on loan of securities issued in the US, by asset class, in EUR bn. The gray bar corresponds to 28th May 2024.
 Sources: FIS Astec, Quandl, ESMA.

FIGURE 12: NUMBER OF SEC. LENDING TRANSACTIONS – OVERALL STABLE ACTIVITY AROUND T+1



Note: number of daily transactions in securities lending markets for securities issued in the US, by asset class, in thousands. Government bonds and ETFs on the right axis. The gray bar corresponds to 28th May 2024.
 Sources: FIS Astec, Quandl, ESMA.

FIGURE 13: UTILISATION RATE – VALUES COMPARABLE TO HISTORICAL LEVELS



Note: Utilisation rate of securities issued in the US, by asset class. Utilisation rate in percent: the ratio of the market value of securities lent over the market value of securities available for lending. The gray bar corresponds to 28th May 2024.
 Sources: FIS Astec, Quandl, ESMA.

FIGURE 14: LOAN FEE – SLIGHT INCREASE IN ETF LENDING FEES IN END MAY

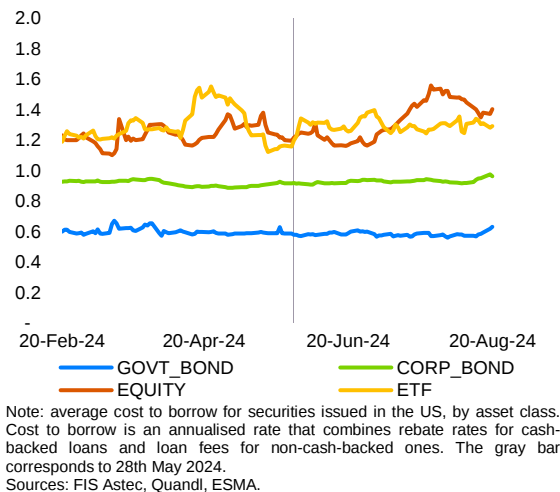
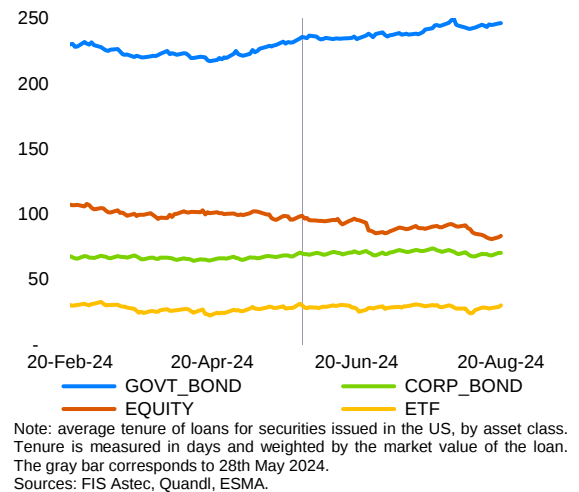


FIGURE 15: LOAN TENURE – NO SUDDEN SHIFT IN AVERAGE TENURE



148. Further analysis is needed to better understand longer-term developments. However, ESMA considers that this data does not allow to confirm the concerns expressed by respondents to its Call for evidence in relation to the expected immediate impact that shortening the settlement cycle could have on securities lending. It is worth noting that a similar assessment on repo market has not been done because the US Treasuries already settled in T+1 before May 2024.

3.2.4 Conclusion

149. Shortening the settlement cycle to T+1 will result in a significant reduction of the time that positions on cleared securities transactions remain open at a CCP, hence reducing risk exposures subject to CCP guarantee and freeing up capital which is not required any longer to cover exposures via margins over two days but one day. Furthermore, T+1 will allow investors to obtain the securities they purchase or their funds (when they sell the securities) faster.

150. T+1 will also allow EU capital markets to keep up with the evolution of other markets, putting an end to costs linked to the current misalignment of settlement cycles. This will directly benefit the EU asset management industry, will contribute to the harmonisation of corporate event standards in the EU and will more generally contribute to the competitiveness of EU capital markets.

151. However, T+1 will also represent an important change to the way stakeholders operate and as such it will require system upgrades and changes to market practices for which investments will be needed. The costs related to these investments are not easy to quantify and will be different for different stakeholders. However, many of these costs will in any case be required to improve settlement efficiency, which has been a priority for ESMA and for EU capital markets since the adoption of CSDR. This has been restated by the co-legislators in CSDR Refit. Feedback received by ESMA following the shift to T+1 in North America suggests that many stakeholders have prioritised investing in workforce to cover the immediate needs resulting from the shift to T+1⁵⁸. This feedback equally suggests that this choice is temporary, and that further standardisation of processes and automation should be pursued to deal with faster settlement. ESMA considers the further standardisation and the investments in increased automation and efficiency as a benefit for the competitiveness of EU markets. Furthermore, it should be noted that the search for economies of scale by the entities affected by T+1 could foster integration and/or consolidation of middle/back offices and post-trading activities.

152. The potential deterioration of settlement efficiency as a consequence of the shift to T+1 has been raised to ESMA as a major concern by stakeholders, however there is no previous experience in the EU allowing to determine whether the shift to T+1 will indeed impact settlement efficiency negatively. International experience does not allow to confirm such deterioration either. Settlement efficiency could represent a potential cost for failing counterparties if it deteriorates (and cash penalties increase) or a benefit (if settlement efficiency improves thanks to investments in more efficient systems and to changes in market practices). ESMA has heard the feedback from some stakeholders in relation to the potential need for a temporary suspension of cash penalties around the date of transition to T+1⁵⁹. However, more substantial evidence, including quantitative data, would be needed to support the assumption that T+1 would lead to a deterioration of settlement efficiency. ESMA proposes that the European Commission may consider ways to smooth out the potential cost that would entail an increase of settlement fails, including the possibility for a time-limited suspension of the application of cash penalties, or an alternative mechanism to alleviate the potential increase of the overall level of cash penalties in the context of the shift to T+1. However, this would need to be supported by substantial evidence from market participants in the context of the governance put in place to help coordinate the shift to T+1 in the EU.

⁵⁸ Similarly to the conclusion in section 3.1.4

⁵⁹ Including in the Advice to ESMA from the MSG (cf. 2)

153. The impact of T+1 on securities lending liquidity and repo has also been highlighted as a potential cost to the system. However, here again looking at the experience in the US, it cannot be inferred that there will be an impact on securities lending and hence a cost to the system due to lower liquidity.

154. The consideration given to these last two elements highlights the importance of the work which will have to be undertaken ahead of the go-live of T+1 in the EU, to ensure that recommendations and requirements are clearly elaborated in time for the proposed entry into force date, and all systems and market practices are adapted to shorter settlement cycles so that settlement efficiency does not deteriorate (and could even improve) and securities lending and borrowing markets as well as repo markets continue to work efficiently thanks to the required adaptations of market practices by concerned entities.

3.3 Detailed outline of how to move to a shorter settlement cycle

3.3.1 Introduction

155. When working on the detailed outline of how to move to a shorter settlement cycle in the EU, ESMA has given consideration to the following elements: (i) the scope and the approach of the move to T+1; (ii) the identification of the date on which T+1 should be mandated in the EU; (iii) the process to be followed in order to achieve T+1; and (iv) the governance that should be put in place to help achieving T+1.

3.3.2 Scope and approach of the move to T+1 in the EU

3.3.2.1 Scope

Assessment

156. ESMA has assessed whether certain categories of transactions should be excluded from the scope of T+1. This assessment has mainly focused on situations where the settlement of a transaction on a given security depends on the settlement of an adjacent transaction, and more concretely on securities financing transactions (SFTs) as these could face particular challenges in a T+1 environment as further specified in section 3.1 of this report. Indeed, keeping the current scope of categories of transactions, and in particular SFTs, for T+1 could potentially impact some market players, such as market makers or fund managers. The former borrow securities on the stock lending market or via the repo market as part of their liquidity provision activities. Fund managers lend securities as part of their optimisation activities.

157. Currently, Article 5(2) of CSDR does not differentiate between SFTs and other transactions in transferable securities. It should be read as covering all transactions in transferable securities that are executed on trading venues, irrespective of their category, excluding only transactions negotiated privately but executed on a trading venue, transactions which are executed bilaterally but reported to a trading venue or the first transaction where the transferable securities concerned are subject to initial recording in book-entry form (cf. Section 3.1.1.2 of this Report for more information on the scope to T+2).
158. Recital (13)⁶⁰ of CSDR provides additional clarification on the way in which the rule should apply in the specific case of "complex operations composed of several transactions involving a transfer of securities". Article 5(2) and Recital (13) - read jointly - apply to SFTs in the following way:
159. If an SFT concerns transferable securities and is executed on a trading venue, the first transaction involving a transfer of securities (i.e. the so-called "first leg" of an SFT) should be settled - at the latest - on the second business day after the trading takes place.
160. If an SFT does not concern transferable securities or is not executed on a trading venue, it is not subject to the requirement of settlement on T+2 or sooner.
161. If an SFT meets one of the criteria laid down in the second sentence of Article 5(2) of CSDR then it is not subject to the requirement of settlement on T+2 or sooner, i.e.:
- the SFT has been negotiated privately but is executed on a trading venue;
 - the SFT has been executed bilaterally but is reported to a trading venue;
 - the SFT is the first transaction in transferable securities which are subject to initial recording in a book entry form.

⁶⁰ Recital (13) CSDR: For complex operations composed of several transactions such as securities repurchase or lending agreements, that requirement [T+2] should apply to the first transaction involving a transfer of securities (emphasis added).

162. ESMA has found no evidence suggesting that the inclusion of SFTs in the scope of T+1 is not possible. Indeed, although current settlement cycles of SFTs vary depending on their type and place of settlement, the vast majority of them already settle, whether on T2S or not, on T+0 or T+1 (cf. Annex II hereto⁶¹).
163. The current regime has been operational since 2014 and ESMA understands that shortening the time available to settle adjacent transactions to ensure timely settlement will require all market players, and in particular market makers and funds, to increase automation and adapt their practices.
164. Furthermore, looking at recent international experience, different solutions have been provided to SFTs, which suggests that their exclusion from the scope of T+1 is not essential to the good functioning of markets. The SEC rules have not explicitly excluded SFTs from the scope of T+1 and the evolution of securities lending in the US after the shift to T+1 does not seem to have suffered any major impact, as already presented in Section 3.2.3.2. Entities participating in this market seem to have adapted to a work environment with a shorter post-trade window, without any major negative impact. On the contrary, Canada has exempted SFTs, among others⁶², from the scope of T+1.
165. None of these factors suggests that excluding SFTs from the scope of T+1 is necessary to ensure a successful compression of the settlement cycle.
166. ESMA has also assessed the types of financial instruments currently under the scope of Article 5(2) and whether they could adequately settle in T+1. In the different interactions that ESMA has had with stakeholders in the preparation of this report, it has appeared clear that there is almost unanimous support to maintaining the current scope of instruments of Article 5(2) of CSDR. However, anecdotal feedback has suggested the need for two potential exemptions: futures products on fixed-income securities (cf. Section 3.1 for further detail on the scope) and ETFs.

⁶¹ See in particular the paragraphs relating to 'Matched settlement instructions that T2S settled against payment per category of transaction', 'Matched settlement instructions that T2S settled free-of-payment per category of transaction' and 'Matched settlement instructions that settled outside of T2S per category of transaction'.

⁶² The Canadian regulation, exempts from T+1 securities lending, repurchase, reverse repurchase or similar financial transactions. <https://www.securities-administrators.ca/news/canadian-securities-regulators-announce-move-to-t1-settlement-cycle/>

167. As regards *futures products on fixed-income securities*, feedback received by ESMA suggests that the date of allocated physical delivery in government bonds should not be shortened to one business day after the last trading date of the futures contract. For these market participants, the large size of these deliveries means that allocation and confirmation deadlines are already complex under T+2. This seems to be a question of the capacity of involved market players to deal with the important size of trades taking place in this specific market, however, no other specific difficulty or blocking point in relation to T+1 has been brought to the attention of ESMA in this regard.

168. In the case of *ETFs*, two types of impact have been assessed when considering the need for a potential exemption from the scope of T+1. As already described in Section 3.1.3 above, the first one relates to existing inefficiencies in the process required for the creation of ETF shares. The second one would result from the misalignment of settlement cycles in different jurisdictions.

Conclusion

169. Looking at the categories of transactions within the scope of Article 5(2) of CSDR and considering that no major impact has been observed in relation to securities lending in the US, ESMA is of the view that there is no need to provide for different settlement cycles for SFTs.

170. In ESMA's view, any such exemption from T+1 would go against the overall objective of increasing settlement efficiency, which requires that all stakeholders work towards more efficient, more resilient, and better functioning markets.

171. Regarding the types of instruments under the scope of T+1, ESMA has not found sufficient evidence to conclude that the exclusion of futures products on fixed-income securities and of ETFs will result in greater benefits than risks for the successful transition to shorter and more efficient settlement cycles.

172. In the first case, ESMA has not obtained any quantitative evidence or clear specification of any blocking point that could effectively impede the move to T+1 in relation to physical deliveries in government bonds resulting from the expiry of a futures contract. The only issue seems to be the capacity of involved market players in dealing with the sizes of the transactions.

173. In the case of ETFs, ESMA recognises that these instruments today have a lower settlement efficiency than other financial instruments. However, ESMA considers that the industry should find solutions to increase settlement efficiency and ensure that the ETF creation process is aligned with secondary market settlement to ensure a successful transition to T+1. The move to T+1 should further encourage stakeholders to increase efficiency. Furthermore, the global trend towards T+1 (Cf. Section 3.4 of this report) should decrease the risk that ETFs invested in jurisdictions with different settlement cycles do not settle on time.

174. For this reason, ESMA recommends keeping the existing scope in Article 5(2) of CSDR in the shift to T+1 in the EU.

175. ESMA has also considered whether there would be a need to include in the legislative framework a specific deadline for the settlement of primary market transactions. However, nothing seems to indicate that this is required at this stage. In some cases it could have negative impact, for example the Eurosystem's Debt Issuance Market Contact Group (DICMG) analysed in detail the prospects of reducing the current T+5 settlement cycle of syndicated debt issuance transactions in Europe and concluded that an artificially forced reduction would result in net negative consequences and a high operational risk in debt issuance⁶³.

3.3.2.2 Approach to the migration to T+1 in the EU

Assessment

176. Having considered the scope of the shift to T+1, ESMA has also assessed what approach to the shift to T+1 would be more adequate for EU markets. Two main options have been contemplated, the first one consisting of a phased approach, where different financial instruments would start settling on T+1 following a pre-defined calendar (like the case in India); and a second one, according to which all the instruments and transactions within the pre-defined scope would start settling on T+1 at the same time (like in North America).

⁶³ https://www.ecb.europa.eu/pub/pdf/other/ecb_advisoryreportdebtissuancedistributionEU202112-3da04b818a.en.pdf

177. The first option, organising the transition to T+1 according to a calendar where different instruments would be settled in T+1 at different pre-defined dates, has proven successful in India. Implementing it in the EU could have some benefits. In particular, it would allow for a smooth transition, with those instruments and transactions which can already settle easily in T+1 going in a first phase, while the industry would prepare for accelerated settlement of other instruments and transactions which require more preparations. This option has also been considered by ESMA in the context of the difficulties faced by markets with regard to corporate events of shares which are listed or traded in the EU and North America simultaneously. As explained before in this report, key dates of corporate events are linked to the settlement date. This has resulted in different key dates for corporate events of securities listed or traded in the EU and in the US, with the difficulties and risks described before. Shifting the settlement of those securities to T+1 in a first phase would solve those issues.

178. However, after having consulted stakeholders and having assessed the feedback received, ESMA also sees a number of difficulties linked to such a phased approach. Different migration dates for different financial instruments could create complications for cross-border settlements, in an already complex market. From an operational point of view, different settlement cycles would increase complexities as stakeholders would have to handle different migration times and manage databases referencing the settlement cycle of each ISIN code. Furthermore, different migration times could also have negative consequences due to interdependencies across instruments such as further complexity of the cash management and investment decisions (e.g., funding issues for exchange-traded products with equities or bonds as underlying) or the risk of biasing funds' investment decisions towards instruments with a longer settlement cycle. A phased approach would imply higher costs in the implementation of the project, as it would potentially run for a longer implementation period exacerbating the risks of misaligned settlement cycles and the costs linked to it. Finally, ESMA is concerned that moving to T+1 for a reduced scope of securities with the objective of solving some of the specific issues related to misaligned settlement cycles in the EU and in North America (such as the key dates for corporate events) would not sufficiently incentivise the preparations for the subsequent phases of the shift. It also has to be noted that the industry could have, on its own initiative, chosen to move to T+1 for the securities particularly subject to issues following the US move.

179. The second option, a single migration date for all instruments and transactions, transaction types and asset classes, has also been successfully achieved internationally as shown by the North American experience. This option might require a greater effort over a shorter timeframe, as all stakeholders involved, independently of the financial instruments or of the category of transaction, would have to be ready at the same time for the transition to T+1. However, all the downsides in terms of risks and of costs of the phased approach described above would be avoided.

Conclusion

180. ESMA considers that the migration to T+1 in the EU should happen for all the instruments in the scope of Article 5(2) of CSDR at the same time. ESMA is cognizant of the coordination effort and the need for preparations that this would require. In order to ensure that the transition to T+1 happens in an orderly fashion, sufficient time for the preparation of the different elements of the project should be foreseen. Furthermore, a proper governance to help this effort should be put in place at European level. The following sub-sections of this report provide ESMA's assessment and recommendations with regard to the timing in which T+1 should be achieved in the EU, the different elements of the process leading to that objective and the proposed governance of the shift to T+1.

3.3.3 Proposed date for mandating T+1 in the EU

Assessment

181. When choosing a date for shortening the settlement cycles in the EU, ESMA has looked at two main elements: the time needed to carry out all the changes required (regulatory and operational) for the shift to T+1 and the determination of the moment of the year which appears most adequate for launching such a project. ESMA has also considered previous EU experience in the transition from T+3 to T+2 and international experience in the shift to T+1. Although both cases represent some limitations for the expected EU transition to T+1, they remain useful points of reference.

182. The transition from T+3 to T+2 in the EU took 31 months since CSDR was published in the OJEU. Prior to 2014 there were different settlement cycles in the EU, with most securities in Europe settling on T+3 or T+2⁶⁴. Also, the preparations for the go live of T2S in parallel to that development worked as a major catalyst for coordination in the EU markets. Therefore, the objective at that time was primarily to harmonise those settlement cycles within the EU and only shorten them in case they were longer than two business days. The objective of further shortening the settlement cycle is to continue improving the way in which the market works and to align with other jurisdictions outside the EU. Despite these objectives being slightly different, the urgency in order to maintain the competitiveness of EU capital markets is similar. Before 2014, the misalignment of settlement cycles within the EU represented important costs and a barrier to the development of EU capital markets. Today, the misalignment with major jurisdictions outside the EU has also an impact on the competitiveness of EU capital markets, as already explained in Section 3.2.1.2.

183. The way EU markets work has also significantly evolved since 2014. At that time, market practices were less standardised, and infrastructures were much more fragmented than today. Since then, the harmonisation of market practices, the successful launch of T2S in 2015, the establishment of links between CSDs and the implementation of the settlement discipline framework, have significantly changed the way in which settlement functions in the EU, making it more integrated and efficient than ten years ago. However, a move to T+1 represents a reduction of the post-trade window considerably higher and potentially more impactful than the one achieved with CSDR in 2014.

184. When looking at the most adequate moment of the year for the go-live of T+1, it appears clear from the feedback gathered by ESMA that the beginning of the year (January), the corporate events season (usually between May and July), the end of the calendar year (November and December) and quarter shifts (typically contracts expire at the end of a quarter, with high volumes of activity around it) should be avoided. Furthermore, during ESMA's public hearing on shortening the settlement cycle⁶⁵, which took place on 10 July 2024, participants suggested through a poll that Q4 2027 would be the most adequate moment for the EU to shift to T+1.

⁶⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD%3A2012%3A0023%3AFIN>

⁶⁵ <https://www.esma.europa.eu/press-news/hearings/public-hearing-shortening-settlement-cycle>

185. ESMA has also looked at the US experience concerning the date for the migration to T+1. The US industry has played a pivotal role in the decision to shorten settlement cycles in the US. Although there were only 14 months between the adoption of the SEC final rule on T+1 and the transition date, a lot had already been discussed among the US industry on how to implement that shift, since the publication by DTCC of a white paper on T+1 in February 2021⁶⁶ and a subsequent report including recommendations on how to implement the shift to T+1⁶⁷. Also, the US migrated to T+1 on 28 May 2024, after a long weekend. The SEC initially proposed migrating on 31 March 2024, but the feedback to their consultation suggested moving the transition date to a date following a day on which both markets and banks had been closed, providing market participants with a three-day weekend to facilitate the transition to a T+1 standard settlement cycle, and providing market participants an additional two months for more thorough preparation and testing protocols.

Conclusion

186. All in all, the shift from T+2 to T+1 might require at least 31 months although these should not start counting from the publication in the OJEU of any prospective change to Article 5(2) of CSDR.

187. Considering the strong support from most stakeholders and the momentum gained⁶⁸ at the time of publication of this report, it would not seem adequate to wait for the publication in the OJEU of an amendment to Article 5(2) of CSDR to initiate the formal process to implement T+1. The duration of the legislative process required to change CSDR is difficult to foresee. If the work initiated by market players in the EU continues and intensifies immediately after the publication of this Report, while waiting for the adoption of the new regulatory framework, the chances of a successful shift to T+1 in the EU in the medium term would be considerably higher and the costs related to continuous misalignment with other jurisdictions lower.

188. Looking also at possible lessons to be learnt from the US experience, ESMA has considered the possibility of choosing a long weekend. However, the different bank holidays in different Member States make it challenging to find one long weekend for 27 Member States, and while this extra day could represent some benefits, discussions with EU stakeholders suggest that this does not appear as an essential feature of the transition to shorter settlement cycles.

⁶⁶ <https://www.dtcc.com/-/media/Files/PDFs/White%20Paper/DTCC-Accelerated-Settle-WP-2021.pdf>

⁶⁷ <https://www.dtcc.com/-/media/Files/PDFs/T2/Accelerating-the-US-Securities-Settlement-Cycle-to-T1-December-1-2021.pdf>

⁶⁸ As shown by the work of the European T+1 industry task force.

189. All these elements considered, in particular the need for at least 31 months for the industry to prepare and make the necessary investments and adapt processes, the urgency to address the misalignment with international capital markets, the preference for Q4 2027 and the need to avoid November, December and quarter shifts, the second Monday of October seems to be the most adequate moment for the implementation of such a project. Therefore, ESMA recommends 11 October 2027 as the optimal date for the shift to T+1 in the EU.

190. It is ESMA's views that this Report together with the joint statement with the European Commission and the European Central Bank from 15 October 2024⁶⁹ provide a sufficiently strong signal for the industry to initiate the preparations towards T+1. This signal should be reinforced by the publication of a Commission proposal for the amendment of Article 5(2) of CSDR in due course.

3.3.4 A roadmap to T+1 in the EU

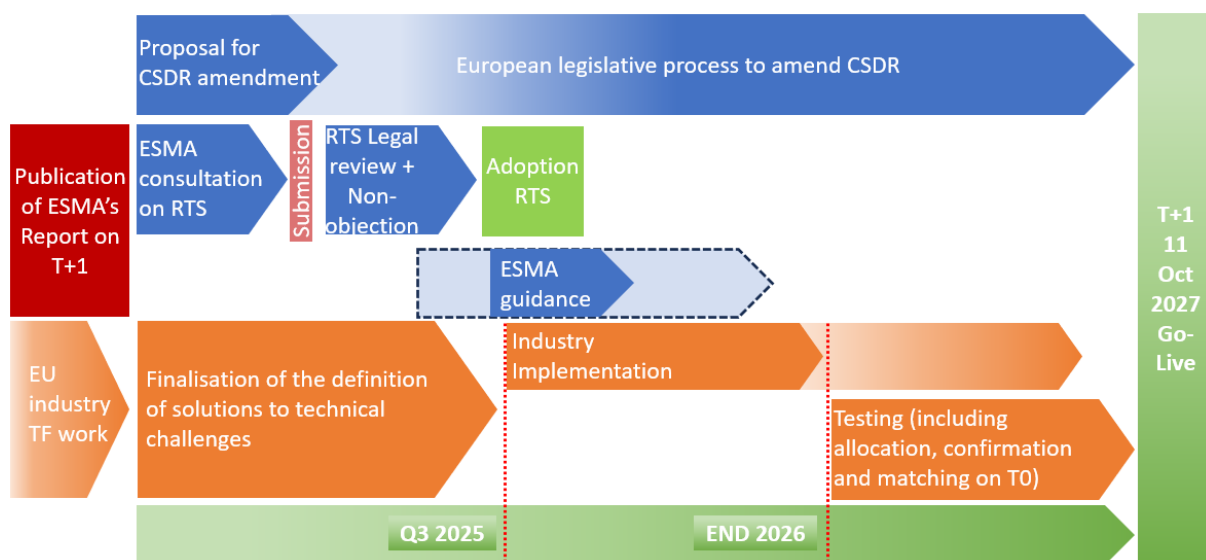
191. ESMA has identified the main elements of the roadmap which should lead EU markets to shorter settlement cycles, including the expected timing of each step to achieve this by the proposed date, i.e. 11 October 2027. ESMA acknowledges that the roadmap is challenging. Part of the complexity of this roadmap resides on the number of different elements that will be required to successfully achieve T+1, and the processes needed to put those elements in place. Those processes will run in parallel, they will depend on different actors and will be interdependent.

192. The elements of the roadmap can be classified into two main categories. The first category is of a legal nature and concerns amendments to the legislative and regulatory framework. These should not only provide legal certainty on the obligation to settle transactions on T+1 but should also promote tools to increase settlement efficiency in order to help market players in the shift to T+1. The second category is more operational and concerns all the necessary steps required from market players to ensure they can work in a T+1 environment. This second category includes finding harmonised technical solutions to the challenges raised by T+1 by redefining market standards, adapting contractual arrangements, market practices and conventions, putting in place and testing the required systems and processes to settle securities transactions on T+1.

⁶⁹ https://www.esma.europa.eu/sites/default/files/2024-10/ESMA74-2119945925-2085_EC-ECB-ESMA_High_level_joint_statement_T_1.pdf

193. Figure 16 below shows the different processes running in parallel that should be completed to ensure that all the elements mentioned above (those of legal nature and those more operational) are in place for a successful shift to T+1 in the EU on the proposed date. These processes are described in detail the following subsections. Sub-section 3.3.4.1 focuses on the top half of the timeline, while sub-section 3.3.4.2 focuses on the bottom half of the timeline (arrows in orange). Given the complexity of the different elements of this timeline, ESMA is also suggesting a specific governance to promote the successful completion of the shortening of the settlement cycle in the EU.

FIGURE 16: PROCESSES RUNNING IN PARALLEL TO ENSURE A SUCCESSFUL SHIFT TO T+1 IN THE EU



3.3.4.1 Review of the settlement legislative and regulatory framework

Assessment

194. ESMA has assessed the changes to the legislative and regulatory framework which would be needed to achieve T+1. In doing so, the elements of this framework that have been considered are CSDR, Commission Delegated Regulation (EU) 2018/1229 on Settlement Discipline (CDR 2018/1229) and ESMA's Guidelines on standardised procedures and messaging protocols⁷⁰.

⁷⁰ <https://www.esma.europa.eu/document/guidelines-standardised-procedures-and-messaging-protocols-under-article-62-regulation-eu-0>

a) CSDR

195. The obligation to settle transactions on transferable securities traded on trading venues no later than the second business day after the transaction has taken place (T+2) is required by Article 5(2) of CSDR. This provision does not prevent market players from settling transactions on T+1 (or even on T+0). T+2 is a maximum deadline, but market players can decide to settle securities transactions earlier than T+2 if the required conditions (mostly, the availability of cash and of securities) are reunited at the moment of execution of the transactions. As shown before in this report, settlement on trade date and in T+1 already happen at different stages in different asset types in the EU.

196. This possibility of earlier settlement without amending Article 5(2) of CSDR questions the need to perform this legislative change. Indeed, not changing primary legislation would present the advantage of simplifying the overall process. Legislative changes in the EU go through the ordinary legislative procedure, involving the Council and the Parliament, which might last for one to two years. T+1 could be seen as a technical change which could be achieved without this change if there was a strong consensus and market push for faster settlement cycles, with some changes in CDR 2018/1229 that could help to facilitate earlier settlement. However, and independently of whether there is a consensus among market players on the need to achieve shorter settlement cycles and on how to achieve them, the change to Article 5(2) would provide legal certainty about the obligation to settle transactions no later than one business day following the date in which the transaction is executed. This would also ensure a harmonised settlement cycle for securities transactions in the EU, avoiding that some market players or jurisdictions within the EU would settle transactions in longer settlement cycles.

b) Commission Delegated Regulation EU 2018/1229

197. Settlement efficiency has been and remains a priority for ESMA. CDR 2018/1229 includes a number of measures to prevent and address settlement fails. Among these measures, Article 2(2) of CDR 2018/1229 specifies the deadlines for the exchange of written allocations and confirmations between professional clients and investment firms.

198. Exchanging written allocations and confirmations are essential processes contributing to the timely settlement of securities transactions. Therefore, getting these deadlines right would be essential to achieving a successful transition to T+1. Currently, there are two deadlines depending on the time zone where the investment firm and the professional client are established or on the time by which the orders have been executed (cf. Section 3.1.3.1). The latest of these deadlines is by 12.00 CET on T+1. Although early allocation and confirmation might not be an assurance for settlement, allowing for allocations and confirmations to be sent on T+1, when settlement should take place on T+1, would seriously hamper the achievement of faster settlement cycles. The risk of settlement fails would be higher if those allocations and confirmations are not sent as soon as technically possible after the execution of the trade and in any case no later than by the end of the trade date. ESMA notes that a similar approach has been or is being envisaged in other jurisdictions⁷¹. The requirement to confirm and allocate on trade date could enter into force in advance of the move to T+1 in order to allow for a swift transition.

199. Furthermore, there are a number of other potential amendments to the rules aimed at preventing settlement fails⁷² that could also contribute to facilitate the successful transition to T+1. In particular, ESMA has started considering:

- whether the remaining exceptions allowing for manual intervention are well calibrated or should be modified to increase STP rates;
- whether an electronic standard settlement instruction should be mandated at EU level and the “place of settlement” included as a mandatory field;
- the potential alignment of cut-off times among EU CSDs;
- whether “trading date” should be defined;
- whether the current hold and release mechanism and the partial settlement requirements are well calibrated and applicable exemptions are fit for purpose;
- whether a Unique Transactions Identifiers should be mandated;

⁷¹ In the US, the SEC has mandated same-day allocation, confirmation and affirmation. In the UK, the [Accelerated Settlement Report](#) also included a similar recommendation cf. p. 12 “*This means mandating appropriate operational tasks to be completed by the end of Trade Date together with certain behavioural changes. These changes should take place in advance of the move to T+1. Most obviously these would include requiring Allocations, Confirmations and trade level Matching to take place by the end of Trade Date.*”

⁷² Chapter II of the RTS on settlement discipline

- whether shaping⁷³, partials⁷⁴ and real-time gross settlement throughout the business day should be further promoted and if yes how;
- incentivising compliance with the industry standards for handling corporate actions;
- promoting the use of auto-lend/borrow programmes provided by CSDs;
- other measures to encourage and incentivise the timely settlement of transactions and/or to be taken by investment firms to limit settlement fails;
- Other means of enhancing STP in post-trading activities.

c) Guidelines on standardised procedures and messaging protocols under Article 6(2) of CSDR

200. In 2020, ESMA issued a set of guidelines to ensure the common, uniform and consistent application of requirements on allocations and confirmations resulting from CSDR and CDR 2018/1229. These Guidelines clarify the scope of these requirements and provide guidance on the standardised procedures and messaging standards used for the purposes of compliance.

⁷³ Shaping refers to an operational process in which instructions for the delivery of a large amount of collateral are divided into smaller deliveries or “shapes.” The primary goal is to limit the economic impact of settlement failures. When parties shape transactions, they break down a single large delivery into multiple smaller deliveries. For example, if a large collateral transaction is worth 100 million nominal value, it can be shaped into two deliveries of 50 million each. Shaping does not alter the underlying transaction; it merely divides it into manageable portions. [Confirmations should still be sent for the entire transaction, not separately for each shape.](#)

⁷⁴ Partial occurs when a buyer accepts a delivery of less than the contracted amount of a security purchased in a cash trade or repo. However, it is essential to understand that partial delivery does not fully satisfy the contractual obligation of the seller. The primary purpose of partials is to reduce the adverse economic impact of a failure to deliver the full amount. It allows the buyer to receive at least a portion of the securities. Unlike shaping (which is an operational action by the seller), partial is a decision made by the buyer. The seller remains obliged to complete the full delivery.

201. Considering the expected revision of CDR 2018/1229, the revision of this set of Guidelines would be needed to ensure that they remain relevant and help facilitating settlement on T+1, by promoting among others further automation and the phase-out of any remaining manual processes. These Guidelines still include references to “written” or “oral” exchanges and to procedures other than STP, including mails or faxes. While ESMA has understood from the different feedback received that full automation might not be possible for all the post-trade processes leading to settlement and that full automation does not guarantee timely settlement, it appears essential to continue increasing automation in order to shorten the settlement cycle. As such, reference to “written” or “oral” exchanges and to procedures other than STP, including mail or faxes in those Guidelines could hamper T+1.

Conclusion

202. ESMA considers it essential to initiate the revision of the legislative and regulatory framework as soon as possible to achieve T+1 in the EU by the given deadline. Therefore, ESMA recommends to the European Commission to adopt a legislative proposal to amend Article 5(2) of CSDR. This legislative proposal should include the following change:

*(2) “As regards transactions in transferable securities referred to in paragraph 1 which are executed on trading venues, the intended settlement date shall be no later than on the ~~second~~ **first** business day after the trading takes place”.*

203. The second sentence of Article 5(2) should remain as it is⁷⁵, to ensure that the scope of transactions under T+1 remains unchanged as compared to T+2.

204. ESMA recommends the European Commission to launch this legislative proposal as a matter of urgency.

205. Implementing faster settlement cycles requires and implies higher efficiency to be able to execute post-trade processes within a shorter time window. Some aspects of the regulatory framework should be amended to accompany market players in the shift to T+1. ESMA will review the existing settlement discipline framework with the objective of facilitating T+1 and will use the mandate provided for in Article 6(5) of CSDR as renewed by CSDR Refit for this purpose, requiring ESMA to develop draft regulatory technical standards to specify:

(a) the measures to be taken by investment firms to limit settlement fails;

⁷⁵ That requirement shall not apply to transactions which are negotiated privately but executed on a trading venue, to transactions which are executed bilaterally but reported to a trading venue or to the first transaction where the transferable securities concerned are subject to initial recording in book-entry form pursuant to Article 3(2).

- (b) the details of the procedures that facilitate settlement, which could include the shaping of transaction sizes, partial settlement of failing trades and the use of auto-lend/borrow programmes provided by certain CSDs; and
- (c) the details of the measures to encourage and incentivise the timely settlement of transactions.

206. This mandate should be used to introduce some amendments to Delegated Regulation 2018/1229 with the objective of improving settlement efficiency under a T+2 environment, preparing the ground for the move to T+1 and ensuring at least same levels of settlement efficiency after the shift to T+1. Following a consultation period, ESMA's intention is to submit the final report in Q3 2025.

207. ESMA considers it necessary that the industry, on a best effort basis and depending on operational changes which might be a pre-requisite, starts confirming and allocating transactions systematically by the end of trade date as of January 2026.

208. In its technical advice to the European Commission on the CSDR penalty mechanism, following the consultation conducted by ESMA at the beginning of 2024, ESMA does not intend to recommend the implementation of structural changes to the penalty mechanism, in order to facilitate the transition to T+1. At the same time, in order to ensure that the penalty mechanism effectively discourages settlement fails, incentivises their rapid resolution and improves settlement efficiency, ESMA is considering recommending a moderate increase of some of the penalty rates, so that they are higher than the related securities lending and borrowing rates. This should act as an incentive for market participants to borrow the securities and cure the settlement fails, instead of paying the penalties.

209. Finally, ESMA will review the Guidelines on standardised procedures and messaging protocols once the revision of Delegated Regulation 2018/1229 has been finalised.

210. One of the challenges linked to the revision of the regulatory framework will reside on finding the right balance between the requirements to be included in Delegated Regulation 2018/1229 and other ESMA guidelines and elements for the operationalisation of T+1 which will be required from the industry (to be put in place by different market players through system upgrades, contractual arrangements, market standards and market practices) but will not need to be included in the regulatory framework.

3.3.4.2 Operationalisation of T+1: Identification of the market standards, practices, and conventions to be adapted to T+1, implementation and testing.

Assessment

211. Stakeholders will need to work on adapting aspects of their businesses which are not directly mandated or detailed in EU regulations.
212. The European financial industry has actively worked on the shortening of the settlement cycle at individual level as well as joining forces at the EU industry Task Force created in 2023⁷⁶ and at the Advisory Group on Market Infrastructures for Securities and Collateral (AMI-SeCo)⁷⁷. Their contributions to ESMA's work (through their responses to ESMA's call for evidence, their participation at ESMA's industry workshop in December 2023 and ESMA's public hearing in July 2024 as well as the Task Force's report published on 14 October 2024 and the T2S governance contribution), have helped ESMA to gain a better understanding of the challenges and the costs and benefits associated with a move to T+1 and with the design of the roadmap towards T+1 in the EU.
213. More concretely, the report from the EU industry TF has identified a number of areas where further work is needed to operationalise T+1, in particular on the redefinition of market standards, contractual arrangements, general practices and functionalities offered by market infrastructures. While some of these elements, in particular some of the functionalities offered by market infrastructures, might be included in the regulatory framework, many others will not. The industry will have to agree on them and implement them to achieve T+1.
214. Furthermore, T2S plays a central role in settlement in the EU by providing core and standardised settlement services to 24 CSDs and 21 markets. Furthermore, T2S facilitates coordinated implementation of major regulatory changes (such as penalty mechanism and potentially T+1) for these CSDs and markets. In addition, T2S simplifies cross-border settlement procedures, thanks to its technical set-up and the important harmonisation agenda that accompanied its launch and that eased the difficulties caused by different countries following different settlement practices. As already highlighted by ESMA in its latest *Report on the Provision of cross-border services by CSDs and handling of applications under Article 23 of CSDR*⁷⁸, T2S is seen by all categories of stakeholders as one of the main drivers for the development of CSD cross-border services.

⁷⁶ <https://www.afme.eu/news/press-releases/details/afme-announces-establishment-of-t1-industry-taskforce->

⁷⁷ https://www.ecb.europa.eu/paym/groups/shared/docs/AMI-SeCo_views_on_standard_settlement_cycle_shortening.pdf

⁷⁸ https://www.esma.europa.eu/sites/default/files/2024-01/ESMA74-2119945925-1568_CSDR_report_on_cross-border_services.pdf

215. The feedback that T2S has submitted to ESMA for the preparation of this report points at different specific operational aspects of its functioning that could be adapted depending on the conclusion of a further analysis to be conducted together with all stakeholders involved. These adaptations could concern mainly the settlement schedule and potentially some settlement optimisation mechanisms and tools.

216. In order to achieve T+1 by the proposed date, ESMA has assessed how the follow-up work on these operational elements should be structured and the timing by which this work should be finalised. As for any other technical project of such nature and size, three main stages could be envisaged to structure the work before the final shift to T+1, i.e. planning, development and testing. Putting these phases into more concrete terms in the context of T+1, they should translate into the following:

a) Planning: Finalising the definition of solutions to technical challenges

217. The work on the identification of solutions to challenges posed by T+1 has started well ahead of the publication of this report and should continue building on the momentum gained.

218. Following from the feedback received by ESMA and leveraging on the past transition from T+3 to T+2 and the recent US move to T+1, the work during this phase should focus among others on the following:

- Identification of the technical changes to market infrastructure operations and daily timetable (including alignment of schedules for registration of trades, CCPs processes and settlement deadlines within trading venues, CCPs, CSD and T2S as well as relevant deadline for FX markets).
- Identification of the changes to the existing market conventions, standards, and practices. This step should include revising the timeline of CCPs to report pending transactions to their clearing members, changes to the processing of corporate actions, that should not be subject to manual processing or the alignment of settlement of fund units to a shorter settlement cycle.
- Definition of the governance and schedule of the industry testing.

219. Given the amount of work already carried out over the last year on this (not only in the EU, but also learning from the US and the UK experiences), this phase should be concluded during Q3 2025, allowing for budget planning for the implementation in 2026. Concerning the specific case of solutions pertaining to settlement, i.e. proposals which may have an impact on operations and/or may result in concrete functional system changes in major infrastructures, their definition should be completed as soon as possible, to allow for change request drafting, deployment and testing during 2026 and the first half of 2027.

b) Development: Implementation of solutions

220. Following the identification of solutions, time should be provided for different market players to implement them, including among others: the publication of changes to systems, processes and terms and conditions by market infrastructures (CSDs, CCPs and trading venues as required), implementation of changes into the systems of market infrastructures and individual firms, carrying out all the required repapering by revising and updating legal contracts and agreements.

221. Ideally, the implementation phase should start in Q1 2026 and be concluded, at least for the main aspects of it, by the end of the 2026. However, it is to be noted that the implementation could continue once the testing has started and depending on the results of the testing. These two phases (implementation and testing) might not be strictly sequential but could run in parallel.

c) Testing

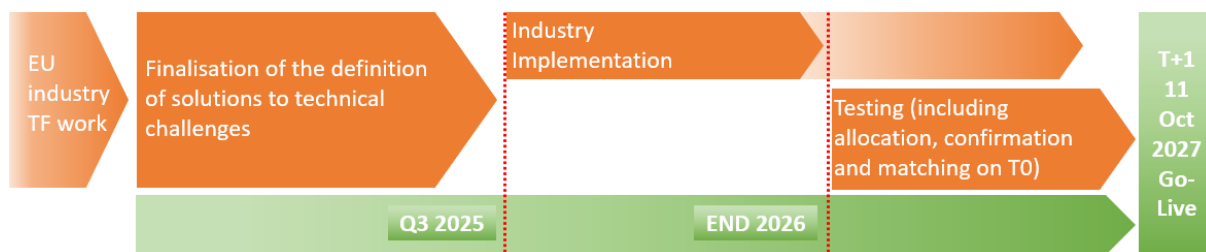
222. The testing phase should start immediately after the main elements of the implementation phase are put in place and should ensure that all stakeholders involved have tested their systems, procedures, and connections to financial market infrastructures under the shorter settlement cycle. This phase should include internal and end-to-end testing throughout settlement chains. According to feedback received, and as confirmed by the contribution by the T2S governance, several months of testing will be required. Again, this testing might result in some adaptation to the implementation of measures put in place to achieve T+1.

223. ESMA considers that the testing phase should take no less than six months, starting at the beginning of 2027.

Conclusion

224. The operationalisation of T+1 should consist of three phases: finalisation of the identification of solutions to technical challenges, implementation and testing. In order to meet the proposed deadline, ESMA recommends the following timeline: finalising the definition of technical solutions that the EU industry and the T2S governance have started by Q3 2025, implementing those solutions by the end of 2026 and testing all systems in 2027 ahead of the deadline for shifting to T+1 on the proposed date, i.e. 11 October 2027.

FIGURE 17: THREE PHASES OF THE OPERATIONALISATION OF T+1



225. This work should also represent an opportunity to work on practical ways to implement the recommendation on improving the connectivity and achieve an overall simplification of the post-trading landscape issued by ESMA in its position paper on “*Building more effective and attractive capital markets in the EU*”⁷⁹ within the ongoing discussion on the SIU.

226. ESMA has also observed how the industry in other jurisdictions has organised the operationalisation of the shift to T+1. In particular, the [T+1 Securities Settlement Industry Playbook](#) (Industry Playbook) which identifies key issues across a number of business areas that industry participants considered in moving to T+1, seems to be a good practice that the EU industry could consider.

3.3.5 Governance of the shift to T+1

Assessment

⁷⁹ https://www.esma.europa.eu/sites/default/files/2024-05/ESMA24-450544452-2130_Position_paper_Building_more_effective_and_attractive_capital_markets_in_the_EU.pdf

227. The EU fragmented settlement landscape, the settlement discipline framework and the unharmonized national securities laws, represent additional challenges to the shift to T+1 as compared to other jurisdictions globally.
228. In order to manage such a complex project in a complex trading and post-trading landscape, ESMA has considered which specific governance could be put in place to ensure a smooth implementation of T+1 in the EU. This governance could take different shapes and be composed of different stakeholders (e.g. the Commission, ECB, ESMA, possibly in cooperation with an appointed personality with recognised experience in the field). It could build on existing initiatives or be created from scratch, but it should in any case have a clear mandate, should help keeping track of the changes to the regulatory framework and should have a strong focus on industry deliverables.
229. As regards a fully industry-led governance, this could be considered as taking advantage of pre-existing industry bodies, such as the European T+1 Industry Task Force⁸⁰. ESMA recognises that there are a number of advantages identified in this approach. For instance, these are pre-existing bodies that could initiate the work at short notice. ESMA also acknowledges that the US transition to T+1 was led by the industry. Likewise, the UK Accelerated Settlement Group is an industry-led body endorsed by the UK government⁸¹.
230. However, the recent example on the implementation of divergent solutions to the misalignment between the US and the EU in the field of corporate actions has shown that finding solutions to technical issues in a harmonised way might require a stronger push from authorities. In addition, the landscape in the EU happens to be more fragmented than in other jurisdictions and at the point of drafting this report a consensus about the move to T+1 appears to be building.
231. Therefore, ESMA considers that the involvement of the European Commission, ESMA and the ECB in this governance is important to drive this process forward.

Conclusion

⁸⁰ <https://www.afme.eu/key-issues/t-1>

⁸¹ <https://www.gov.uk/government/publications/accelerated-settlement-taskforce/accelerated-settlement-technical-group-terms-of-reference>

232. As announced in the joint statement published on 15 October 2024⁸², ESMA, the European Commission and the ECB have agreed to put in place a governance involving industry representatives, as well as NCAs and Member States to help coordinate the shift to T+1 in the EU, by delivering on the technical solutions to the challenges posed by T+1, monitoring implementation of those solutions and help monitoring the testing ahead of the shift to T+1.
233. Further information on the governance should follow shortly after the publication of this report.

4 Overview of international developments on settlement cycles and their impact on the Union's capital markets

4.1 A state-of-play of settlement cycles in the main jurisdictions internationally

234. This section describes the state of play of the settlement cycles in the main jurisdictions across the world (please see the summary in Figure 18 below). In order to draft this section, ESMA has used public information available at the time of the publication of this report. The analysis unveils that whereas in the majority of these jurisdictions in the East Asia and Pacific and the European regions settlement occurs within two days after trade date, the main jurisdictions in North America, South Asia and Latin America have recently opted to introduce a shorter settlement cycle. However, discussions on the shortening of the settlement cycle are on-going in several jurisdictions, which demonstrates a global trend towards shorter standard securities settlement cycle.

Europe

235. In Europe, both the United Kingdom (UK) and Switzerland operate in a T+2 environment since 2014. However, this scenario might soon change given ongoing policy discussions to move to a shorter settlement cycle.

⁸² <https://www.esma.europa.eu/press-news/esma-news/esma-ecb-and-ec-announce-next-steps-transition-t1-governance>

236. Notably, at the end of March 2024, the UK government announced its support to the recommendation made by the Accelerated Settlement Taskforce (AST)⁸³ to move to a T+1 model and to do so by no later than the end of 2027⁸⁴. More specifically, in a report published on 28 March 2024⁸⁵, the AST announced that there is “considerable support for a two-step approach” in the move to a T+1 settlement cycle. The transition should begin with the implementation of mandated operational and behavioural changes in the course of 2025 to enable market participants to adapt to the new environment in advance of the formal transition. Then, the full transition will be completed by the end of 2027.
237. The recommendations of the AST were taken over by the AST technical group, which published its draft recommendations report for consultation on 27 September 2024⁸⁶. The final report on the AST Technical Group is expected by December 2024.
238. In the case of Switzerland, voices in the industry have called for the need to move to a shorter settlement cycle “for competitive reasons” as well as for adoption of a coordinated approach in this process at the European level together with the EU and UK⁸⁷. As for other jurisdictions, the transition to a shorter settlement cycle will be industry-led.

East Asia and Pacific

239. The main jurisdictions in the East Asia and Pacific region have adopted T+2 as the standard settlement cycle with the exception of mainland China. In East Asia, trades are required to be settled two days after trade date in Hong Kong (for Hong Kong Stock Exchange stocks and since 2011), Japan (since 2019), Singapore (since 2018), South Korea (since 2012) and Taiwan (since 2009).

⁸³ This independent taskforce was established in 2022 and assigned with the task to evaluate a potential UK move to a shorter settlement cycle.

⁸⁴ HM Treasury (2024). Accelerated Settlement Taskforce: Government Response, Policy Paper. Available at Accelerated Settlement Taskforce: Government Response - GOV.UK (www.gov.uk) Available at [Accelerated Settlement Taskforce: Government Response - GOV.UK \(www.gov.uk\)](https://assets.publishing.service.gov.uk/media/6603f31bc34a860011be762c/Accelerated_Settlement_Taskforce_Report.pdf)) Available at [Accelerated Settlement Taskforce: Government Response - GOV.UK \(www.gov.uk\)](https://assets.publishing.service.gov.uk/media/6603f31bc34a860011be762c/Accelerated_Settlement_Taskforce_Report.pdf)

⁸⁵ Available at https://assets.publishing.service.gov.uk/media/6603f31bc34a860011be762c/Accelerated_Settlement_Taskforce_Report.pdf at

⁸⁶ <https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2024/09/uk-ast-technical-group-draft-report-and-recommendations.pdf>

⁸⁷ See for example AMAS (2023). T+1 Settlement. Regulation. Available at [Asset Management Association Switzerland | T+1 Settlement \(am-switzerland.ch\)](https://www.assetmanagementassociation.ch/)

240. On the contrary, mainland China follows an approach where different settlement cycles coexist according to the segmentation of the Chinese equity market and the status of the counterparties to bond trades. For so-called *A shares*⁸⁸, mainland China currently settles securities on trade date (T+0) and cash on the following business day (T+1). *B shares*⁸⁹ equity markets follow a longer settlement cycle where trades must settle within 3 days after trade date (T+3). Finally, the standard settlement cycle in the China Interbank Bond Market can be T+0 or T+1. However, in the case of cash bonds, pledged repos, outright repos, or bond lending, whenever one of the counterparties is a foreign institutional investor, the parties to the transaction can avail themselves of a T+2 (since 2017) or even a T+3 settlement cycle (since 2019).
241. As for Australia, cash equity trades settle on T+2 since 2016. Nevertheless, there is an ongoing debate on whether Australia should shorten its settlement cycle in the near future. At the end of 2023, a T+1 Working Group was established by the Australian Securities Exchange Business Committee to evaluate a potential move to a T+1 environment. In this context, the Australian Securities Exchange (ASX) published a white Paper on *Considerations for accelerating cash equities settlement in Australia to T+1*⁹⁰ on 23 April 2024, inviting stakeholders to provide feedback by mid-June 2024.
242. On 2 August 2024, ASX published a [feedback summary document](#) resulting from the publication of the Whitepaper on [Considerations for accelerating cash equities settlement in Australia to T+1](#).
243. Responses to the Whitepaper indicate that the market is supportive of a transition to a T+1 settlement cycle. The benefits, costs and challenges identified by the Australian industry are broadly in line with those identified in the US and Europe.
244. At the same time, there is no feedback indicating that the transition to T+1 should be immediate in Australia. Respondents indicated they would like to continue to learn from overseas experiences and look to leverage processes and technologies that have been utilised as part of the transition.

⁸⁸ Stock shares of China-based companies, listed in the domestic stock exchanges (Shanghai Stock exchange and Shenzhen Stock Exchange), denominated, traded and settlement in RMB and restricted to domestic investors and selected foreign institutional investors (i.e., Qualified Foreign Institutional Investors or QFII and RMB Qualified Foreign Institutional Investors or RQFII).

⁸⁹ Stock shares of China-based companies, listed in the domestic stock exchanges (Shanghai Stock exchange and Shenzhen Stock Exchange), denominated in RMB, traded and settled in foreign currency (i.e., USD and HKD) and open to foreign investors and to investors from Hong Kong, Macau and Taiwan.

⁹⁰ Available at <https://www.asx.com.au/content/dam/asx/markets/clearing-and-settlement-services/t1-whitepaper-042024.pdf>

245. With regard to the Japanese market, policy discussions might also take place in the near future on whether to continue operating under a T+2 environment or to implement a shorter settlement cycle. According to feedback received by ESMA, the Japanese industry has recently expressly supported to engage in these discussions to shorten the settlement cycle to T+1.
246. These discussions crystallised in the Japan Financial Services Agency's (JFSA) strategic priorities⁹¹ published in August 2024. These strategic priorities included JFSA's intention to keep a close eye on the trends in overseas markets and coordinate with market participants to further practical discussions regarding an eventual shortening of the settlement cycle.

⁹¹ [20240830_main.pdf \(fsa.go.jp\)](#). Japanese version only. Not available in English.

North America and Latin America

247. On 27 and 28 May 2024, North America (i.e., the United States, Canada and Mexico), transitioned to T+1. This move initially originated as a consequence of the increased volatility episodes experienced in US markets during the COVID-19 pandemic. Against this background, the Depository Trust & Clearing Corporation (DTCC) issued a white paper⁹² at the beginning of 2021 advocating for the need to move to a T+1 model. The paper explained that a shorter settlement cycle could significantly reduce counterparty default risks and consequently reduce the high costs and liquidity problems associated with high intra-day margin requirements –especially acute in periods of market turmoil and extreme volatility. This publication opened a period of joint reflection by representatives of the US industry on the appropriateness and approach to a potential acceleration of the settlement cycle. Eventually, consensus emerged across market participants on the need to move to a T+1 environment. In this context, at the beginning of 2022 the Securities and Exchange Commission presented its proposal to introduce regulatory changes to shorten the standard settlement cycle for most broker-dealer transactions in securities from T+2 to T+1.
248. Given the close proximity, the high level of interconnectedness and the strong level of interaction of the Canadian and US markets, the Canadian Capital Markets Association (CCMA) decided to follow the US transition to T+1 and to implement the transition with only one day difference. Following the choice of the US and Canada, and for the same reasons, the Mexican Association of Brokerage Firms (AMIB) and the Contraparte Central de Valores (CCV) announced in summer 2023 their intention to complete a simultaneous transition to T+1 in Mexico for national securities and for the securities listed at the International Quotation System (SIC) by the end of May 2024⁹³.
249. In line with this policy shift, Argentina announced its intention to implement a change in its standard settlement cycle from T+2 to T+1 for normal cash transactions (stocks and bonds) in March 2024. The objective of this decision as stated by Bolsas y Mercados Argentinos (BYMA)⁹⁴ is to align Argentinean markets with the new settlement cycle standard under which US and Canadian markets would be operating. Finally, Argentina transitioned to a shorter settlement cycle on the same date as Canada and Mexico (i.e., on May 27)⁹⁵.

⁹² Available at [DTCC-Accelerated-Settle-WP-2021.pdf](#)

⁹³ Announcement to market participants available at <https://www.gbm.hsbc.com/-/media/media/gbm-global/gbm-refresh/financial-regulations/attachments/ccv-y-amib-t1-anuncio-ingle769s-version-final.pdf>

⁹⁴ See BYMA announcement at www.byma.com.ar/noticias/reduccion-ciclo-liquidacion-operaciones-contado-normal/

⁹⁵ See BYMA announcement at [Desde el 27/05/2024, BYMA reduce el ciclo de liquidación de operaciones de contado normal - BYMA](#).

250. The Jamaica Stock Exchange (JSE) also followed the move in North America by shortening the settlement cycle to T+1 as of 27 May 2024⁹⁶.

251. The North American shift to T+1 has also been followed by Peruvian markets. By the end of April 2023, the Bolsa de Valores de Lima (BVL), informed market participants that as of 28 May 2024, the transactions conducted with securities in the foreign securities segment (RV3) that operate on the Lima Stock Exchange (BVL) and the North American market, would settle on a T+1 basis⁹⁷.

India

252. In the beginning of 2022, India initiated a phased monthly transition from a standard T+2 equity settlement cycle to a T+1 model. This shift was finally completed in January 2023. One year after the full implementation of the shorter settlement cycle, the Securities and Exchanges Board of India (SEBI) has introduced a new move towards T+0. Notably, in March 2024 the Indian authority launched a beta version of a T+0 settlement cycle that will co-exist on an optional basis with the mandatory T+1 settlement cycle in equity cash market⁹⁸. However, the new version of the optional T+0 model will be limited for a reduced set of instruments and brokers for the time being.

FIGURE 18: STATE-OF-PLAY OF SETTLEMENT CYCLES IN THE MAIN JURISDICTIONS INTERNATIONALLY

State-of-play of settlement cycles in the main jurisdictions internationally				
Region	Jurisdiction	Settlement cycle		Implementation date of last change
East Asia and Pacific	Australia	T+2		2016
	China (mainland)	A shares	T+0 (securities) T+1 (cash)	-
		B shares	T+3	-
		Bonds	T+0, T+1, T+2* or T+3*	2019

⁹⁶ <https://www.jamstockex.com/the-jamaica-stock-exchange-announces-changes-to-settlement-cycle-and-trading-hours/>

⁹⁷ See BVL announcement at [BVL Comunicado-Ciclo-Liquidacion-Ingles.pdf \(dtcc.com\)](#)

⁹⁸ SEBI's circular available at [SEBI | Introduction of Beta version of T+0 rolling settlement cycle on optional basis in addition to the existing T+1 settlement cycle in Equity Cash Markets](#)

	Hong Kong	China A shares via: - Shenzhen - Hong Kong Stock Connect - Shanghai - Hong Kong Stock Connect	T+0 (securities) T+1 (cash)	2016
		Hong Kong Stock Exchange	T+2	2011
	Japan	T+2		2019
	Singapore	T+2		2018
	South Korea	T+2		2012
	Taiwan	T+2		2009
Europe	Switzerland	T+2		2014
	The United Kingdom	T+2		2014
Latin America and Caribbean	Argentina	T+1		2024
	Mexico	T+1		2024
	Jamaica	T+1		2024
	Peru	Securities in the high and low liquidity segments	T+2	2017
		Foreign securities segment (RV3)	T+1	2024
North America	Canada	T+1		2024
	United States	T+1		2024
South Asia	India	Mandatory	T+1	2023
		Optional (25 instruments)	T+0	2024

4.2 Further feedback from stakeholders from the APAC region consulted by ESMA following the Call for evidence

253. Following the Call for evidence on the shortening of the settlement cycle, ESMA staff consulted stakeholders from the Asia-Pacific (APAC) region. The objective was to gain a better understanding of the impact they envisaged from the US transition to T+1 as well as on any expected consequences of a potential move of the EU in the same direction. This section summarizes the feedback collected in the course of such consultations.

Feedback from Japanese market participants

254. ESMA staff reached out to the Japan Securities Dealers Association (JSDA) to gather input from the relevant experts in the Japanese industry – i.e., members of JSDA Working Group on Foreign Securities.

255. Prior to the US transition to T+1, Japanese industry members envisaged that the move to T+1 would require them to implement measures (i) to expedite the issuance of settlement instructions, (ii) to perform Same Day Affirmation and (iii) to transfer money or send settlement instructions on Saturdays and Japanese holidays whenever needed.

256. To prepare for such policy change, they indicated that market participants underwent an adaptation of their internal procedures including the (a) enhancement of systems' automation, (b) the implementation of internal reporting lines to monitor the status of affirmation and (c) increasing funds in advance.

257. After the US transition to T+1, Japanese industry members described the following impact:

- The revision of their systems and the enactment of automated systems to ensure that the issuance of settlement instructions is expedited, enabling these firms to send them earlier, including on Saturdays and Japanese holidays. Several responses confirmed the use of match-to-instruction option on the Central Trade Manager offered by the DTCC to achieve same day affirmation. However, one response informs that some market participants are still unable to comply with same day affirmation, without specifying how wide is this impact.

258. As regards the time zone differences and public holidays, one market participant informs that since trustee banks do not issue settlement instructions on Japanese holidays, an increasing number of buy-side players are in effect unable to place T+1 orders on business days preceding a Japanese public holiday. Another stakeholder reports that, despite the upgrade in their IT systems, the management of mismatches in the trade details is undertaken manually, including on Saturdays or Japanese holidays.
259. There are diverging views regarding the use of custodians. One firm reports using their services but it entails a number of impacts: custodians have brought forward the cut-off time to issue settlement instructions and some of them will apply a penalty to delayed instructions in the near future.
260. On the contrary, another firm reports having outsourced its brokerage and custody to their US subsidiary instead of using an external broker/custodian. This enables them to issue settlement instructions locally. In their view, external brokers/custodians would have an impact in terms of system development and operational procedures (including sending and receiving SWIFT settlement instructions early in the morning or late at night in Tokyo and having to set up an affirmation mechanism in line with the new shortened timeframe).
261. Due to the need to procure funds for settlement, deadlines for receiving orders were brought forward. This change has led to loss of investment opportunities in certain circumstances. An increase in funding costs is also reported. A stakeholder informs that, in order to prevent increases in fundraising costs due to the accumulation of funds for settlement, and to prevent settlement fails, they had to establish and improve operational flows between front and back offices, whilst still taking into account Tokyo and overseas holidays and time zone differences.
262. Japanese industry members expect that an eventual shift of the EU to a shorter settlement cycle would also have an operational impact on their market. Mainly, they envisaged that such a move would also require them to expedite the issuance of settlement instructions, to conduct a (more) extensive restructuring/reconfiguration of their systems and to either secure staff for the processing transactions or to build automated processing systems so as not to limit trading opportunities for customers on EU stocks.

Additionally, the following potential issues were mentioned:

- if raising or transferring foreign currency funds is not possible on Saturdays and bank holidays under a T+1 scenario, it will be necessary to stock up on more foreign currency in advance;

- EU markets should offer some sort of automated system to electronically distribute trade details between counterparties for post-trade processing, similar to DTCC's "Trade Suite ID". It would not only eliminate the need to manually send settlement instructions, but it would also prevent mismatches;

- as opposed to the US case where it was possible to manually respond to errors due to the time difference, such time advantage does not exist in the EU case. As an example, if the affirmation cut-off for an EU settlement instruction is around 4 or 5 a.m. JST (3 to 4 hours after close of trading), errors must be handled in the middle of the night in Japan, which means that it will be necessary to secure personnel for that time;

- if there are orders received after Japanese business hours, it will be necessary to estimate the planned settlement amount a day before settlement, or to build up a capital buffer. If the trade size is small, raising the necessary funds on T (T+0) is still a possibility, but where the trade size is larger than expected a certain amount of capital buffer will be required. This circumstance will lead Japanese firms to control the maximum purchase amount and order amounts more than ever before.

Feedback from Taiwanese market participants

263. The impact of the US move to T+1 on the Taiwanese industry has been limited, since their investors had to pre-fund transactions in North America's securities already under T+2.

264. According to information shared by the Taiwan Stock Exchange Corporation (TWSE) on behalf of the Securities Investment Trust & Consulting Association of the Republic of China (SITCA), the majority of the Taiwanese industry envisages that an eventual decision of the EU to settle on a T+1 basis will entail operational difficulties. Moreover, market participants in Taiwan have shared their concerns about the tight deadlines that will result for FX exchange from a shorter settlement cycle in the EU. A second source of concerns seems to be the eventual levels of cash penalties that will be associated with settlement failures under a T+1 scenario.

265. However, ESMA staff received more nuanced views when requesting the views of the Taiwanese industry regarding a shortening of the settlement cycle in the EU in September 2024: some fund management companies considered that there would not be any major impact, whilst other market participants expressed concerns about the possibility of increasing failure rates and an eventual rise of operational costs.

Feedback from Hong-Kong

266. The Hong-Kong Securities and Futures Commission (SFC) provided further information about the preparation of their industry in light of the shift to T+1 in the US. Overall, the US move was not expected to have any major operational impact on the market participants of this jurisdiction and its industry seemed well prepared to manage the shift in the settlement cycle standard.
267. Specifically, the authorities of that jurisdiction shared with ESMA staff that enquired retail brokerage firms did not expect any material impact to their firms and clients from the US move. Surveyed global firms reported a good level of preparation to the T+1 implementation and they only anticipated a limited impact on their business in this APAC jurisdiction. In the same line, the majority of authorised funds in this jurisdiction with larger exposures to US or global securities did not expect any material impact from the move to t+1, regardless of whether the bulk of their operations are conducted at a global or local level. Moreover, overall, the US transition to T+1 settlement seemed to be a manageable event for authorised funds. However, this jurisdiction also reported an insufficient level of clarity about the readiness of prime brokers to the US transition and a mixed level of preparation from the side of Hedge Fund Managers.
268. This initial feedback was confirmed in September 2024: the Hong-Kong SFC contacted some selected licensed corporations that confirmed that they had not encountered any major settlement or operational issues.
269. As regards the impact of an eventual move to T+1 in the EU on the Hong-Kong industry, the feedback received in September 2024 was positive. In general, the licensed corporations contacted by the SFC consider that their existing operational model, in particular the arrangements adopted to accommodate US T+1, will facilitate the transition to EU T+1 if this was to occur. Nonetheless, some challenges were mentioned by these licensed corporations, including:
- (i) Unlike the US, the EU lacks a unified capital market. This means a move to EU T+1 may require additional regulatory coordination during implementation.
 - (ii) The transition to T+1 in the EU will be more complex than in North America due to the higher number of central securities depositories, which will drive complexity and the amount of testing that needs to be performed with external parties.

- (iii) Time zone differences exist. Some licensed corporations' work shifts need to be adjusted to cover trading during Asia evening time or they need to discuss with their execution broker the settlement cut-off time.

Conclusion

270. The feedback received to ESMA Call for evidence made it clear that reaching out to jurisdictions outside the EU would be essential to understand the impact that T+1 in the EU could have beyond its borders. ESMA understands that the impact on those jurisdictions will be similar to the impact experienced by EU market players following the transition to T+1 in North America, in particular in relation to the need to adapt processes to work in shorter timeframes with the additional complexity of the different time zone, and the need to ensure the conclusion of FX transactions quicker or pre-fund.
271. Now that ESMA has concluded its assessment on the need for the EU to shorten the settlement cycle and considering also the discussions in other jurisdictions (such as Australia or Japan), ESMA will continue discussions with the identified key stakeholders in the relevant jurisdictions to promote a better understanding of the situation in the European Union and the preparedness of stakeholders outside the EU.

5 Conclusion and recommendations

272. ESMA's work on the assessment of the shortening of the settlement cycle in the EU has confirmed the complexity and technical nature of operations surrounding securities settlement and hence the challenges linked to the reduction of the time available to settle securities transactions.
273. Shortening the settlement cycle in the EU will undoubtedly change the way in which markets function today, with different impact depending on the type of stakeholder, the category of transaction and the type of financial instrument. The feedback received by ESMA does not allow to confirm that shortening the duration of the settlement cycle will result in fundamental market structure changes. However, taking into consideration the investments required to increase the efficiency and the robustness of post-trade processes, some smaller market players might potentially be more strongly affected than bigger ones. However, at this stage any contribution of a move to a shorter settlement cycle to consolidation is difficult to assess.
274. As to the possible duration of a shorter settlement cycle, it clearly appears that, at this stage, the settlement cycle should be shortened to the first business day after the transaction has been executed (T+1). A shorter settlement cycle (i.e. T+0) does not seem possible at this point in time although, after T+1 has been achieved in the EU and pending a deeper assessment, further consideration could be given to it. T+0 could be defined in different ways (e.g. intra-day settlement in different settlement batches, end-of-day settlement or atomic settlement), but independently of the different definitions, a harmonised requirement to settle all securities transactions concluded on trading venues the same day that the transaction takes place could imply fundamental changes to capital markets as we know them today.
275. Quantifying some of the costs and benefits related to the shortening of the settlement cycle in the EU has been challenging due to the lack of quantitative evidence and the specificities of EU capital markets, which make it complicated to compare them with the experience in other jurisdictions. However, the elements assessed by ESMA suggest that the impact of T+1 in terms of risk reduction, margin savings and the reduction of costs linked to the misalignment with other major jurisdictions globally, represent important benefits for the competitiveness of EU capital markets and for moving towards the SIU.

276. Harmonisation, standardisation and modernisation will be needed to achieve shorter settlement cycle and will require investments. As already said, these investments might represent a challenge to some smaller market players. However, the improved efficiency and resilience of post-trade processes that would be prompted by a move to T+1 would be a catalyst to higher settlement efficiency in the EU.
277. Considering these findings, ESMA's recommendations in relation to the shortening of the settlement cycle in the EU are the following:
- Having considered the impact as well as the costs and the benefits of the move to T+1, ESMA considers that there are net benefits in shortening the settlement cycle to T+1 in the EU.
 - The migration to T+1 in the EU should happen for all the instruments in the scope of Article 5(2) of CSDR at the same time.
 - The migration to T+1 in the EU should be achieved in Q4 2027. Considering the different elements assessed in this report, in particular the difficulties linked to the go-live of such a big project in November and December, and the challenges linked to the first Monday of October (just after the end of a quarter), ESMA recommends 11 October 2027 as the optimal date for the transition to T+1 in the EU.
 - To facilitate this migration, Article 5(2) of CSDR should be amended as follows: (2) "As regards transactions in transferable securities referred to in paragraph 1 which are executed on trading venues, the intended settlement date shall be no later than on the ~~second~~ **first** business day after the trading takes place".
 - CDR 2018/1229 on the settlement discipline should be reviewed to improve settlement efficiency under a T+2 environment, preparing the ground for the move to T+1 and ensuring at least the same levels of settlement efficiency after the shift to T+1. ESMA will also review the Guidelines on standardised procedures and messaging protocols once the revision of CDR 2018/1229 has been finalised.
 - The operationalisation of T+1 should consist of three phases: finalisation of the identification of solutions to technical challenges, implementation and testing. In order to meet the 11 October 2027 deadline, ESMA recommends the following timeline: finalising the definition of technical solutions that the EU industry and the T2S governance have started by Q3 2025, implementing those solutions by the end of 2026 and testing all systems in 2027 ahead of the deadline for shifting to T+1 on 11 October 2027. A coordinated approach in Europe is desirable.

- To avoid further misalignment of settlement cycles with third-country jurisdictions, it is important to promote coordination internationally and in particular within Europe.
- The complexity of such a project in a complex trading and post-trading environment (such as the one in EU capital markets) calls for a specific governance to be put in place, ensuring the appropriate involvement of all relevant private and public stakeholders. For this reason, ESMA together with the European Commission and the European Central Bank have decided to create a T+1 governance involving industry representatives, as well as NCAs and Member States.

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6.2 Glossary of terms

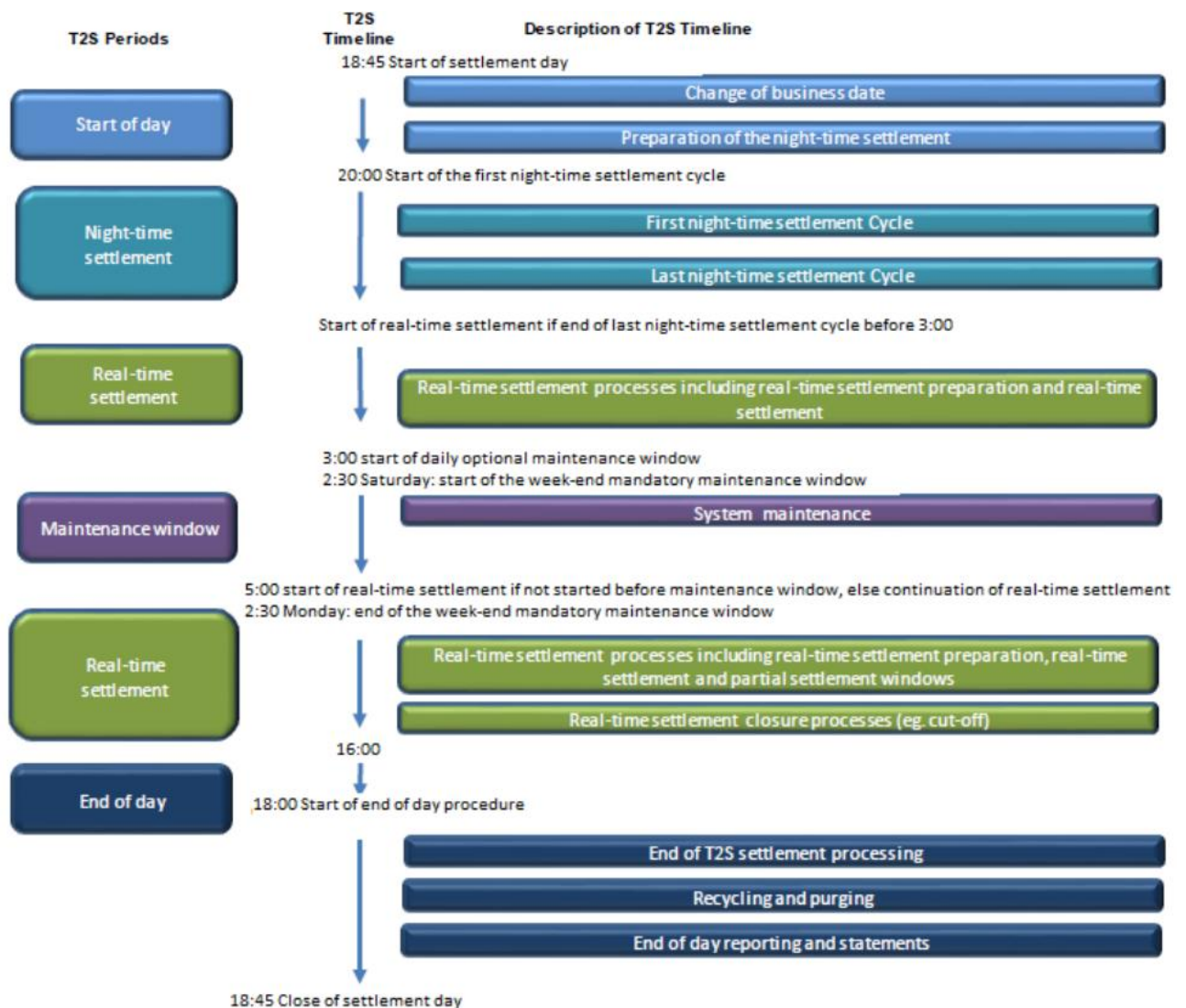
Affirmation	A US concept not used in the EU, an affirmation is the process in which trade instructions and confirmations are verified by the two parties of the trade to allow for eventual settlement. With a shortened settlement cycle, the SEC has implemented certain rules to support best practices in a shorter time frame.
Allocation	Process through, once the execution of the trade has been notified to the trading member, broker and client (trade execution confirmation), they exchange information as to the securities and cash which will be allocated to the trade and the accounts where to find them.
CCPs	Central counterparty or 'CCP', legal person that interposes itself between the counterparties to the contracts traded on one or more financial markets, becoming the buyer to every seller and the seller to every buyer.
Clearing Member	An undertaking which participates in a CCP and which is responsible for discharging the financial obligations arising from that participation.
CLS	Continuous Linked Settlement or 'CLS', a private financial infrastructure, which operates the global central multicurrency cash settlement system, used to settle foreign exchange transactions on a payment versus payment (PvP) basis, currently in 18 eligible currencies and on a T+2 cycle. CLS offsets positions in different currencies against each other and completes the final stage of foreign exchange transactions.
Confirmation	Av process whereby the terms of a trade are verified either by directly involved market participants or by a central entity.
Corporate Action	An action or event decided by the issuer of a security which has an impact on the holders of that security (e.g. dividend/interest distributions, redemptions and reorganisations)
Custodian	An entity, often a credit institution, which provides securities custody services to its customers.
Custody	The holding and administration, by an entity entrusted with such tasks, of securities and other financial instruments owned by a third party.
CSDs	'Central securities depository' or 'CSD' means a legal person that operates a securities settlement system referred and provides at

	least one other core service listed in Section A of the Annex of CSDR (notary or central maintenance at top-tier level).
CSDR	Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories.
DICMG	'Eurosystème's Debt Issuance Market Contact Group'
DvP	'Delivery versus payment' or 'DVP' means a securities settlement mechanism which links a transfer of securities with a transfer of cash in a way that the delivery of securities occurs if and only if the corresponding transfer of cash occurs and vice versa.
ECB	European Central Bank
EFAMA	European Fund and Asset Management Association
ESCB	The 'European System of Central Banks' or 'ESCB' comprises the ECB and the national central banks (NCBs) of all EU Member States whether they have adopted the euro or not.
ETF	'Exchange Traded Fund' or 'ETF' is an investment fund of which at least one unit or share class is traded throughout the day on at least one regulated market or Multilateral Trading Facility with at least one market maker which takes action to ensure that the stock exchange value of its units or shares does not significantly vary from its net asset value and where applicable its Indicative Net Asset Value.
ICSDs	International Central Security Depositories or 'ICSD' designates a CSD which was originally set up to settle Eurobond trades and is now active also in the settlement of internationally traded securities from various domestic markets, typically across currency areas. At present, there are two ICSDs located in EU countries: Clearstream Banking in Luxembourg and Euroclear Bank in Belgium.
FOP	"Free of payment" refers to a delivery of securities which is not linked to a corresponding transfer of funds.
Investor CSD	A CSD that either is a participant in the SSS operated by another CSD or that uses a third party or an intermediary that is a participant in the SSS operated by another CSD in relation to a securities issue.
Issuer CSD	A CSD which provides notary services or central maintenance services in relation to a securities issue. The issuer CSD opens accounts allowing investors (in a direct holding system) and/or intermediaries (including investor CSDs) to hold these securities.
NAV	The 'Net Asset Value' or 'NAV' of an investment fund is the value of its total assets minus its total liabilities.
Netting	In the context of clearing or settlement systems, the agreed offsetting of mutual obligations by participants in a system. This process

	involves the calculation of net settlement positions and their legal reduction to a (bilateral or multilateral) net amount.
NTS	'Nighttime settlement' or 'NTS'
Participant (CSD participant)	Any participant in an SSS.
PvP	'Payment versus Payment' or 'PvP'.
RTS	'Real Time Settlement' or 'RTS'.
SEC	'Securities Exchange Commission' or 'SEC'.
SFT	'Securities financing transaction' or 'SFT' means: a repurchase transaction; securities or commodities lending and securities or commodities borrowing; a buy-sell back transaction or sell-buy back transaction; a margin lending transaction. All these are defined in Regulation (EU) 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse.
SIU	'Savings and Investments Union'.
SMSG	ESMA's Securities and Markets Stakeholders Group or 'SMSG' is a consultative group established to help facilitate consultation with stakeholders in areas relevant to the tasks of ESMA.
SSI	'Standard settlement instruction' or 'SSI'.
SSS	'Securities settlement system' or 'SSS' means a system whose activity consists of the execution of transfer orders allowing for the transfer of securities, either free of payment (FOP) or against payment (delivery versus payment).
STP	'Straight-through-processing' or 'STP' the automated end-to-end processing of trades/payment transfers – including, where relevant, the automated completion of confirmation, matching, generation, clearing and settlement of orders.
UCITS	Undertakings for collective investment in transferable securities

6.3 T2S settlement schedule

Settlement schedules vary from one SSS to another however, most EEA CSDs now use the T2S settlement engine. The diagram below illustrates the chronology of one settlement day under the current settlement schedule (i.e. one settlement day) in T2S⁹⁹:



⁹⁹ This diagram can be found in the T2S User Detailed Functional Specifications June 2024, Section 1.4.3.2 Settlement day high-level processes: https://www.ecb.europa.eu/paym/target/target-professional-use-documents-links/t2s/sdd/shared/pdf/T2S_UDFS_R2024.JUN_clean_20240222.en.pdf?7c66fda324409a1ec87ecb9de760d8be

6.4 Volume and value of transactions that settle on T+0, T+1, T+2 and beyond in the EEA

278. In order to assess current settlement practices in the EU, ESMA has gathered settlement data from TARGET2-Securities (T2S) and from Central Securities Depositories (CSDs) outside T2S, showing the volume and the value of transactions that settle on T+0, T+1, T+2 and beyond.
279. Upon an *ad-hoc* data request from ESMA, the European Central Bank (ECB) has provided ESMA with a consolidated reporting on settlement cycles within T2S. This includes statistics on matched settlement instructions that T2S settled (i) against payment as well as on those that settled (ii) free-of-payment (FOP). In the first case, statistics on both volumes and values were reported. In the second, the reporting only provides data on the volume of FOP settlement transactions. The data is organized by asset type as well as by category of transaction. The reporting period for the data is from 31/07/2023 up to and including 28/06/2024.
280. The statistics refer to settlement transactions, that is to matched settlement instructions that settled in T2S. For the purposes of ESMA's assessment, the final data excludes totally failed settlement transactions on the intended settlement date. However, it does include volume and value data on partially settled and partially failed settlement transactions on the intended settlement date.
281. The total for requested transactional value is provided in EURO. Transactions in Danish Kroner were included in the results by using the ECB reference rate for currency conversion from DKK to EUR available on the 28/06/2024.
282. Second, ESMA has used data gathered from a some CSDs that have not externalised settlement to T2S, covering settlement instructions across settlement cycles on both volumes and values, organized by asset type as well as by category of transaction. However, whereas data of settlement practices outside T2S covers the same type of financial instruments as T2S data, the level of granularity by category transaction is lower. Information received by ESMA is limited in this case to repurchase transactions and to securities borrowing and lending at an aggregated level. Moreover, data on settlement outside of T2S covers any type of instruction and does not differentiate between, for example, delivery versus payment or free-of-payment instructions.

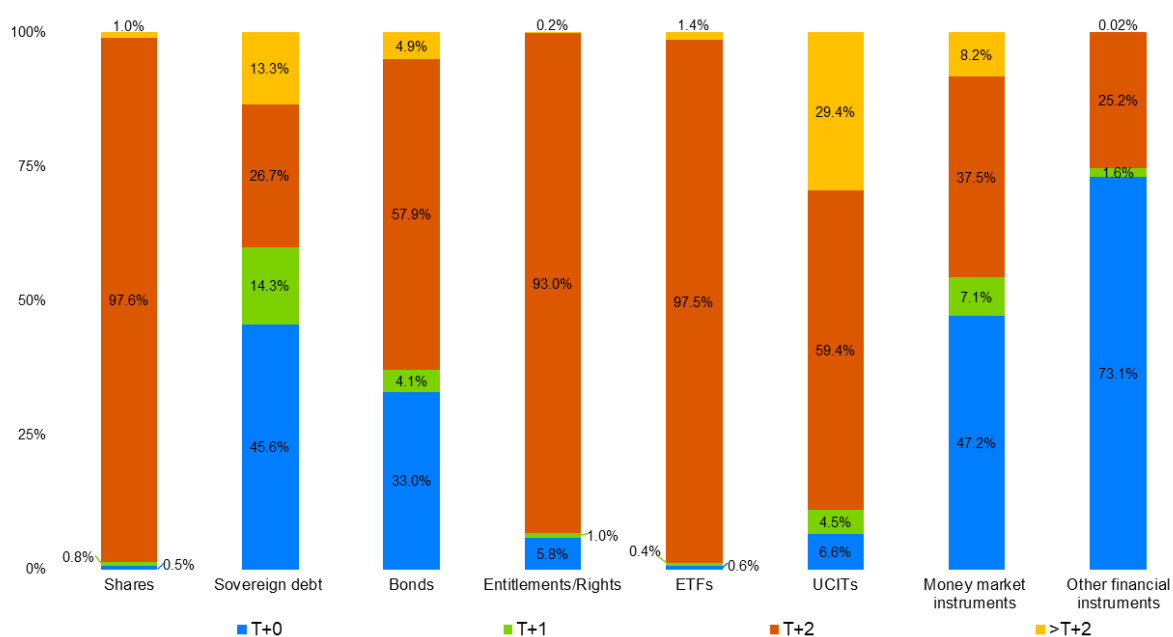
283. The reporting period for the data differs from the one of T2S data. Specifically, data for settlement outside of T2S covers the year starting on 03/04/2024 and finishing on 29/03/2024. These differences have resulted in some limitations on ESMA's assessment, although still allowing to provide an overall picture of the situation which helps inform this report.
284. The statistics on settlement outside T2S refers to settlement transactions. For the purposes of ESMA's assessment, the final data excludes total settlement fails, covering both settlement fails for lack of securities and lack of cash.
285. The total for requested transactional value is also provided in EURO.

Matched settlement instructions that T2S settled against payment per asset type

286. Looking at settlement instructions that T2S settled against payment per asset type, from 31 July 2023 to 28 June 2024, almost half of transactions involving **sovereign debt** and **money market instruments** are settled on trade date (T+0). These asset classes also exhibit the highest proportion of trades settling on T+1 (i.e., around 14% and 7% respectively). Combining both results, the majority of trades for both financial instruments currently settle prior to T+2: around 60% of sovereign debt trades and 54% in the case of money market instruments.
287. In terms of value, the matched settlement instructions settled in T+0 of money market instruments represent up to almost 60% of the total value of money market instruments transactions. If the value of the transactions settled in T+1 is also taken into account (i.e., 14% of the total), transactions in money market instruments that are settled before T+2 account for more than 70% of the total value of matched instructions in money market instruments. Similarly, in the case of sovereign debt, the settlement instructions that settle between trade date and the following business day also represent around 70% of the value of transactions.
288. One third of **bonds/securitised debt** transactions currently settle on trade date and these transactions represent more than 60% of the total value of matched settlement instructions for this asset class. Moreover, while the majority of trades in this type of financial instruments settle on T+2 (57.9%), the value that these transactions represent is only a 10% of the total value of matched settlement instructions in bonds/securitised debt.

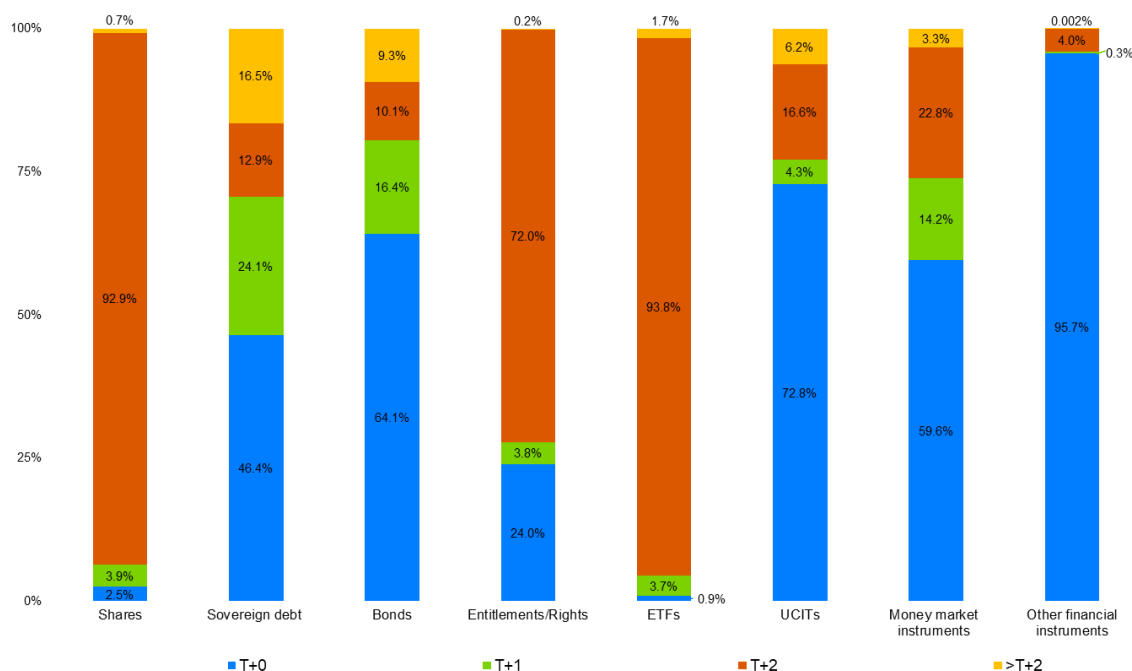
289. When it comes to **shares, entitlements/rights** and **ETFs**, almost all of their transactions currently settle on a T+2 basis (i.e., 97.6%, 93% and 97.5% respectively). Likewise, these trades account for the highest proportion of the total value associated with the trades on these instruments (92.9%, 72% and 93.8% respectively).

290. Finally, around a 60% of **UCITs** transactions settle on T+2 and almost 30% more than two business days after trade date. However, looking at the value of these transactions combined, they only account for less than a quarter of the total value of the transactions settled for this asset class. UCITS transactions settled on trade date represent the highest proportion of the value for UCITS matched settlement instructions.



Note: Percentage of matched settlement instructions that T2S settled against payment on T+0, T+1, T+2 or >T+2 for each asset type. Data from 31/07/2023 to 28/6/2024 (included). The volume of matched settlement instructions excludes total fails and includes partial failures.

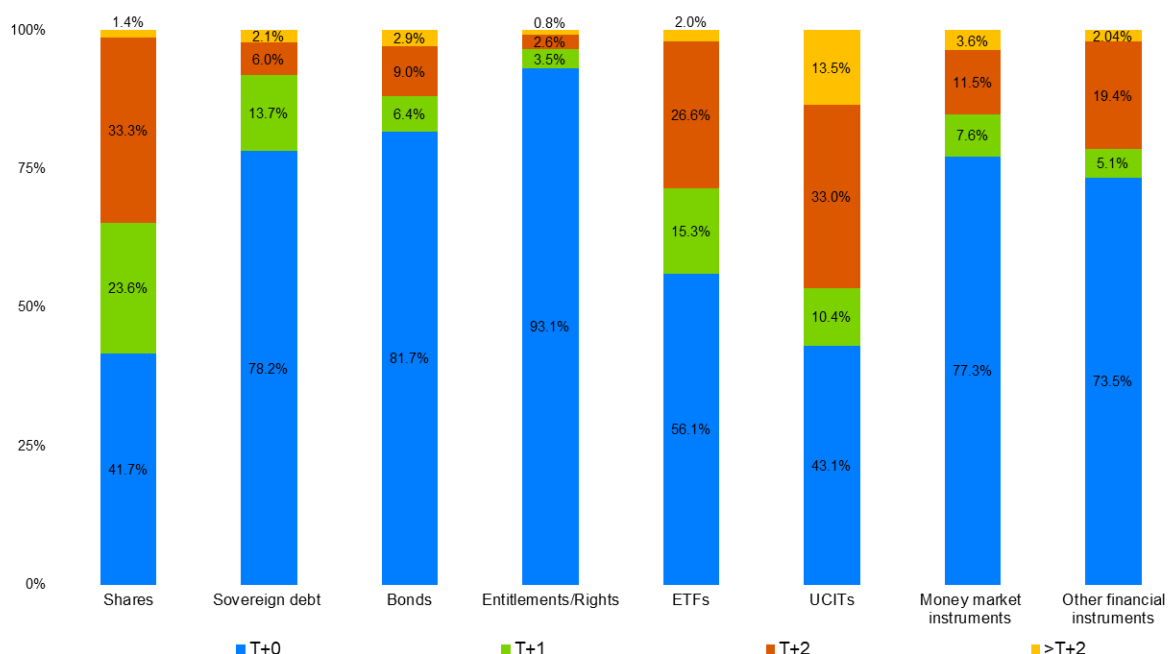
Sources: ECB target services



Note: Percentage of value of matched settlement instructions that T2S settled against payment on T+0, T+1, T+2 or >T+2 for each asset type. Data from 31/07/2023 to 28/6/2024 (included). The total value of matched settlement instructions excludes the value of total fails and includes the value of partial failures. The value of matched settlement instructions is measured in the settlement currency (EUR). Transactions in DKK are also included in the results by using the ECB reference currency conversion rate from 28/06/2024.
 Sources: ECB target services

Matched settlement instructions that T2S settled free-of-payment per asset type

291. When it comes to the instructions that T2S settled free-of-payment (FOP) the picture changes significantly. Namely, the majority of transactions across asset classes settle on a **T+0** basis. The only exceptions being the transactions on shares and UTICs. However, in both asset classes there is still a higher proportion of FOP transactions settling on trade date (i.e., around 42% and 41% respectively) than in T+2 (i.e., a third in both cases).



Note: Percentage of matched settlement instructions that T2S settled free-of-payment on T+0, T+1, T+2 or >T+2 for each asset type. Data from 31/07/2023 to 28/6/2024 (included). The volume of matched settlement instructions excludes total fails and includes partial failures.

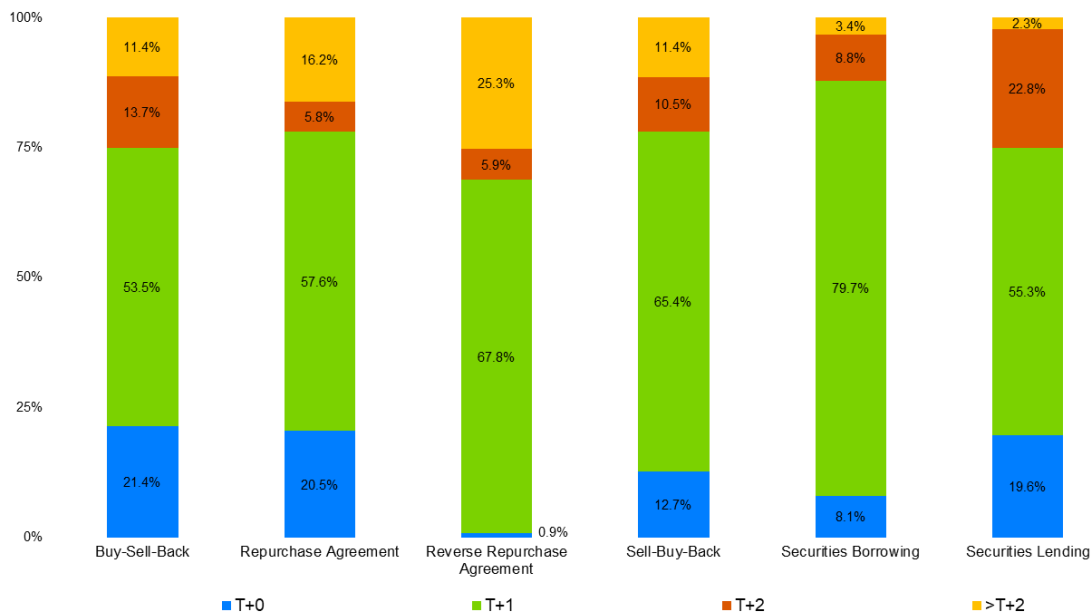
Sources: ECB target services

Matched settlement instructions that T2S settled against payment per category of transaction

292. Considering some of the concerns expressed by market players in relation to the impact that the shortening of the settlement cycle could have on securities financing transactions, ESMA has also looked at T2S settlement data in relation to these categories of transactions.

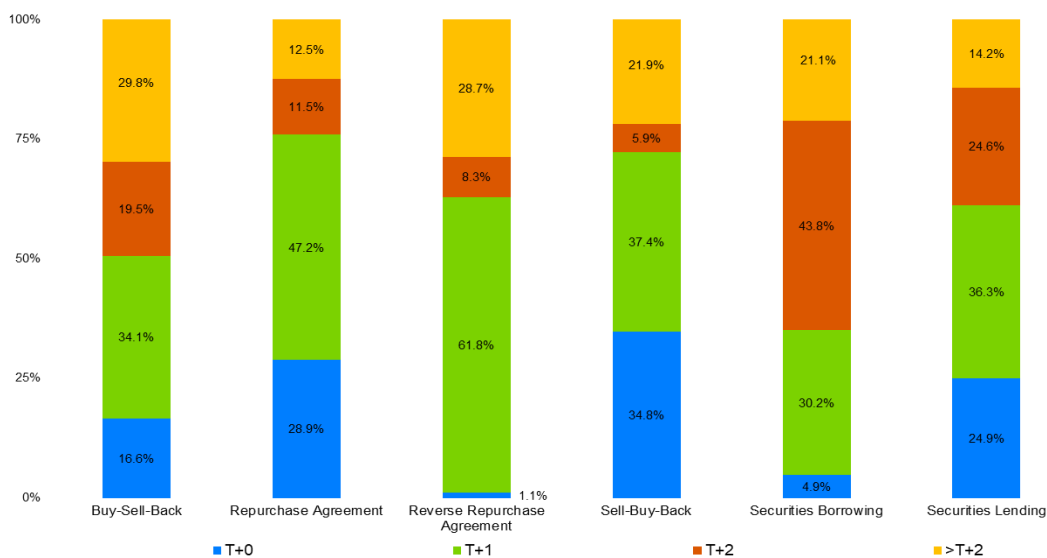
293. The majority of matched settlement instructions settle on T+1 across selected trade types. Nevertheless, some variations can be observed. Namely, almost 80% of the borrowing instructions settle on T+1, but only 53% of buy-sell-backs settle on T+1. However, these transactions represent less than a 50% of the value of the total transactions for all the trade types except for reverse repurchase agreements, for which these transactions account for almost 70% of the value of total repurchase agreements that settled.

294. Around 20% of buy-sell-back trades, repurchase agreements and securities lending settle on trade date. On the contrary, almost no reverse repurchase agreement settled on trade date. The assessment of the value that these transactions represents remains quite similar. Specifically, the reverse repurchase agreements that settle on trade date represent only a 1% of the total value of these trades. On the contrary, repurchase agreements that settle on trade date represent almost 30% of the total, and this figure represents more than a third for sell-buy-backs and a quarter for securities lending. Buy-sell-backs that settle on trade date represent a smaller proportion, i.e. a 17% of the total value.
295. A small proportion of transactions settle on a T+2 basis for all trade types, except for securities lending with more than a 20%. The value that trades settling on T+2 represent remains small for repurchase agreements, reverse repurchase agreements and sell-buy-backs. However, almost 20% of the total value of buy-sell-backs instructions are settled on the second business day following trade date. This figure increase to almost a quarter in the case of securities lending and to more than 40% for securities borrowings.
296. Around a quarter of reverse repurchase agreements settle later than two business days after trade date ($>T+2$) and they represent almost 30% of the total value of these transactions. Interestingly, while only a small proportion of buy-sell-backs, sell-buy-backs and securities borrowing settle on $>T+2$ basis, these transactions account for more than 20% of the total value of these trades, going to almost 30% in the case of buy-sell-backs.



Note: Percentage of matched settlement instructions that T2S settled against payment on T+0, T+1, T+2 or >T+2 for each trade type. Data from 31/07/2023 to 28/6/2024 (included). The volume of matched settlement instructions excludes total fails and includes partial failures.

Sources: ECB target services

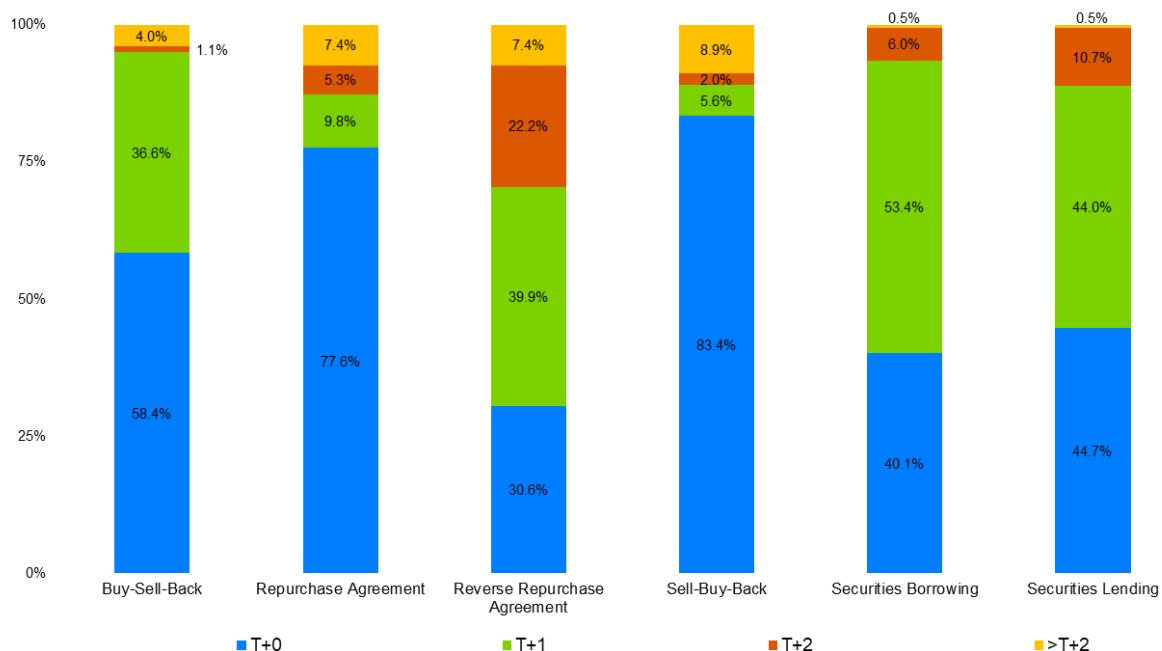


Note: Percentage of value of matched settlement instructions that T2S settled against payment on T+0, T+1, T+2 or >T+2 for each trade type. Data from 31/07/2023 to 28/6/2024 (included). The total value of matched settlement instructions excludes the value of total fails and includes the value of partial failures. The value of matched settlement instructions is measured in the settlement currency (EUR). Transactions in DKK are also included in the results by using the ECB reference currency conversion rate from 28/06/2024.

Sources: ECB target services

Matched settlement instructions that T2S settled free-of-payment per category of transaction

297. The majority of matched settlement instructions that T2S settled FOP for buy-sell-backs (58.4%), repurchase agreements (77.6%) and sell-buy-backs (83.4%) settled on trade date. While 40% of securities borrowings also settled on T+0, the majority of these FOP trades settled on a T+1 basis. When it comes to securities lending, almost the same proportion of FOP trades (i.e., around 44%) settled on trade date and business days after. For all of these trade types, the percentage of transactions that settle on T+2 or beyond is very small. In the case of reverse repurchase agreements, the majority of FOP trades settle between T+0 (around 31%) and T+1 (39.9%). Nevertheless, still more than 20% of repurchase agreements settled on a T+2 basis.



Note: Percentage of matched settlement instructions that T2S settled free-of-payment on T+0, T+1, T+2 or >T+2 for each trade type. Data from 31/07/2023 to 28/6/2024 (included). The volume of matched settlement instructions excludes total fails and includes partial failures.

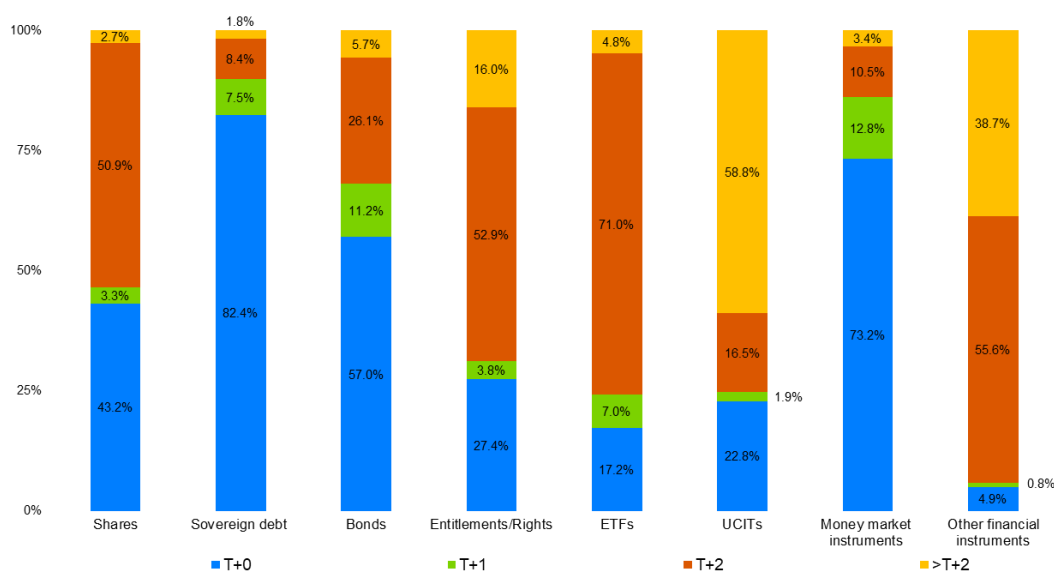
Sources: ECB target services

Matched settlement instructions that settled outside of T2S per asset type

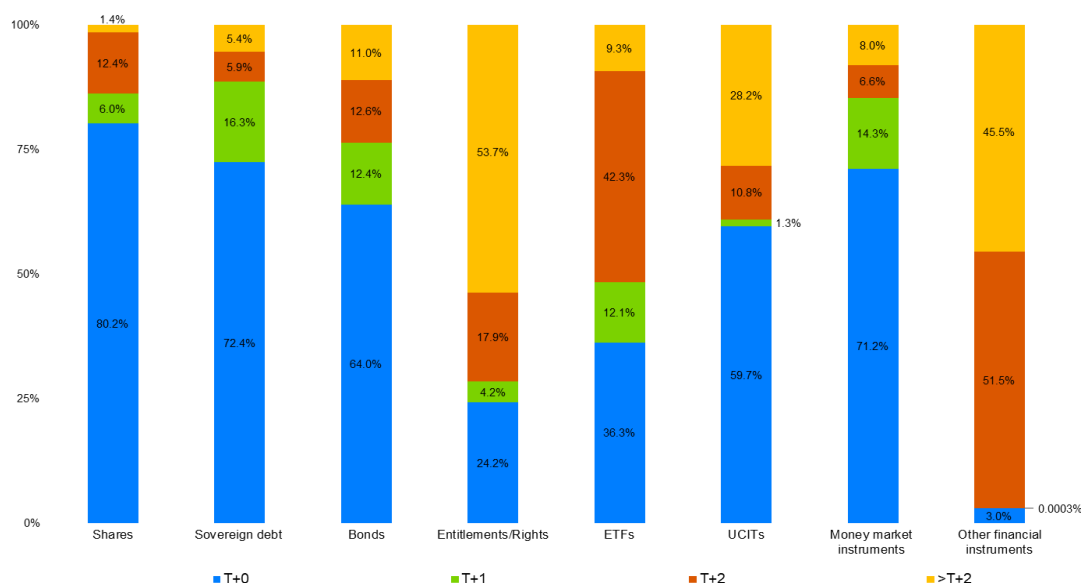
298. Outside of T2S, the percentage of transactions that settle on trade date is significantly higher across asset classes, in comparison with the transactions settling in T2S. At a disaggregated level, the majority of transactions involving **sovereign debt** (82.4%), **money market instruments** (73.2%) as well as **bonds/secured debt** (57%) are settled on T+0. These asset classes also exhibit the highest proportion of trades settling on T+1 (i.e., around 8%, 13% and 11% respectively). Combining both results, most trades for these financial instruments currently settle prior to T+2 outside T2S: around 90% of sovereign debt trades, 86% in the case of money market instruments and 70% for bond/secured debt. Thus, there is a significant difference between the settlement patterns for bonds/secured debt inside and outside T2S.
299. In terms of value, the matched settlement instructions settled in T+0 of sovereign debt and money market instruments represent more than 70% of the total value of transactions in these types of financial instruments. If the value of the transactions settled in T+1 is also taken into account (i.e., 16.3% and 14.3% of the total respectively), transactions in sovereign debt and money market instruments that are settled before T+2 account for almost 90% of the total value of matched instructions for both types of financial instrument. In the case of bonds/secured debt this figure is a bit lower but still significantly high. Namely, the settlement instructions that settle between trade date and the following business day represent around 70% of the value of transactions.
300. Half of the transactions in **shares** currently settle on T+2 outside T2S and a significant proportion of transactions on a prior date. Namely, more than 40% of shares trades settle on trade date. Moreover, whereas transactions settling on a T+2 basis account for only a 12% total value of the transactions that are settled in this asset class, transactions settled on T+0 represent 80% of the total value of the transactions that are settled for shares.
301. More than half of transactions in **entitlements/rights** are settled on T+2 outside of T2S. If the proportion of trades that settle after two business days following trade date is also considered, it is observed that almost 70% of the transactions for this asset class settle on T+2 or later. In terms of value, transactions settling beyond T+2 account for more than half of the total value of transactions in entitlements/rights, whereas T+2 trades represent less than 20% of the total value. In relation to early settlement, still more than a quarter of entitlements/rights trades settle on trade date and these transactions represent almost a quarter of the total value of trades.

302. The majority of **ETFs** transactions currently settle on a T+2 basis, with almost a quarter settling on an earlier date. However, these latter account for almost half of the total value of transactions in this type of financial instrument.

303. Almost 60% of the transactions involving **UCITs** settle more than two days after trade date (>T+2), with only 16.5% settling on T+2 and almost a quarter on an earlier date. However, the trades that represent the highest proportion of the total value of **UCITs** settlements are those that settle on T+2 (i.e., accounting for almost 60%). On the contrary, the transactions that settle beyond T+2 account for less than 30% of the total value.



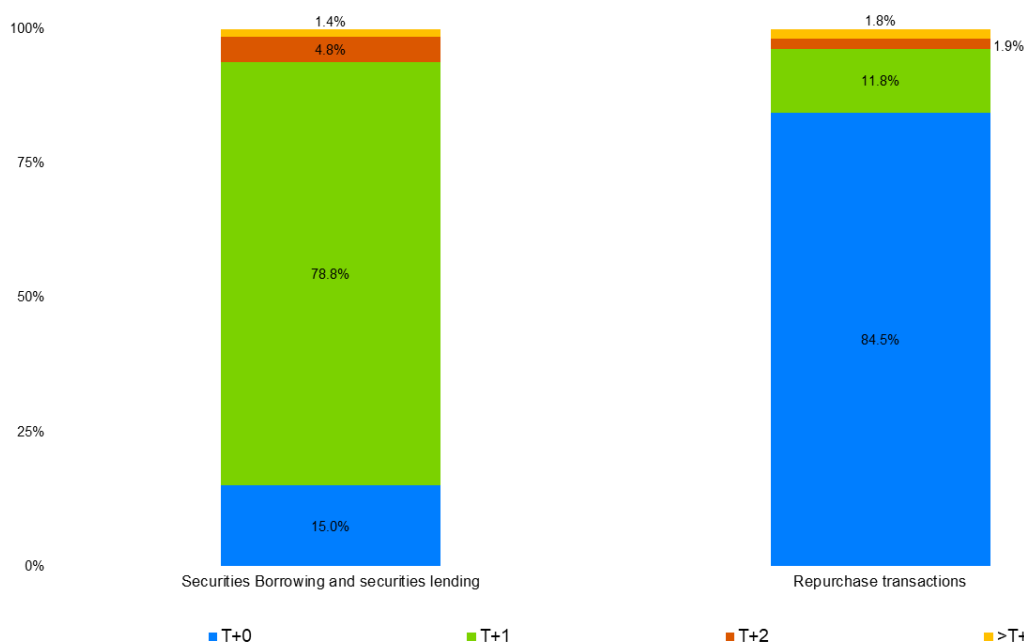
Note: Percentage of matched settlement instructions that settled outside T2S on T+0, T+1, T+2 or >T+2 for each asset type. Data from 03/04/2023 to 29/03/2024 (included). The volume of matched settlement instructions excludes total fails.
 Sources: ESMA's data request



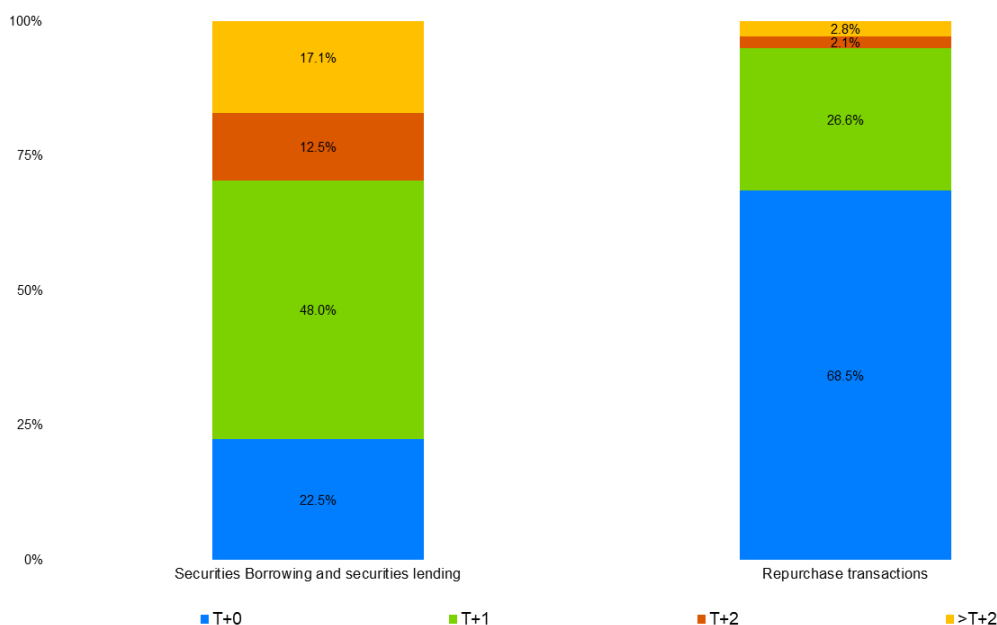
Note: Percentage of value of matched settlement instructions that settled outside T2S on T+0, T+1, T+2 or >T+2 for each asset type. Data from 03/04/2023 to 29/03/2024 (included). The total value of matched settlement instructions excludes the value of total fails. The value of matched settlement instructions is measured in the settlement currency (EUR).
 Sources: ESMA's data request

Matched settlement instructions that settled outside of T2S per category of transaction

304. When looking at data from CSDs outside T2S, ESMA has received information on repurchase agreements and on borrowing and lending aggregated.
305. Data shows that almost all of the transactions involving securities lending and borrowing combined and those involving repurchase transactions settle **prior to T+2** (i.e., 93.8% in the first case and 96.3% in the second). However, both grouping categories exhibit different settlement patterns. Namely, while almost 80% of the securities lending and securities borrowing settle on T+1, almost 85% of repurchase transactions settle earlier on trade date.
306. In terms of value, transactions settling prior to T+2 also account for the majority of the total value of the transactions of executed operations in securities lending and securities borrowing combined (70,5%). Similarly to the assessment of volumes, the transactions settling in T+1 represent a higher value (48%) than those settling on trade date (15%). In the case of repurchase transactions, almost all of the value of all the transactions settled for this category is also represented by those settling prior to T+2 (95.1%). Among these transactions, the ones accounting for the highest proportion of value are those settling on T+0 (almost 85%).



Note: Percentage of matched settlement instructions that settled outside T2S on T+0, T+1, T+2 or >T+2 for each trade type. Data from 03/04/2023 to 29/03/2024 (included). The volume of matched settlement instructions excludes total fails. Sources: ESMA's data request



Note: Percentage of value of matched settlement instructions that settled outside T2S on T+0, T+1, T+2 or >T+2 for each trade type. Data from 03/04/2023 to 29/03/2024 (included). The total value of matched settlement instructions excludes the value of total fails. The value of matched settlement instructions is measured in the settlement currency (EUR). Sources: ESMA's data request