

T+1 Global Impacts

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ISSA is a Swiss-domiciled association that supports the Securities Services industry. ISSA's members include CSDs, Custodians, technology companies and other firms who are actively involved in all aspects of the Securities Services value chain.

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Executive Summary

There is a clear trend developing to accelerate settlement cycles for trades in equities and other asset classes from the global standard of two business days following the trade date (T+2), to one business day following trade date (T+1). There is no one size fits all approach to T+1 and there will be different types of settlement models and scopes of asset classes impacted in each national market, but all of the initiatives will have some common benefits and costs. There are clear benefits to securities markets of reducing the period between trade date and settlement date including reductions in settlement, counterparty credit and market risks, as well as an overall gain in processing efficiency as market participants are forced to automate all aspects of post-trade processing to continue to participate in the markets. These cumulative risk reduction benefits can be characterized as reducing the overall systemic risk of securities trading. However, there are also obstacles that must be addressed, both domestically, and very importantly, on an international basis, focused on cross-border trades into markets moving to T+1 settlement.

In this paper, ISSA's T+1 Global Impacts Working Group (WG) identifies six issues related to the move to T+1, one of which is unique to international investors, and five which are common to both domestic and international investors but are more significant for international investors to address.

Most importantly, ISSA's T+1 Global Impacts WG makes four recommendations to the industry and regulatory bodies that are contemplating the possibility of accelerating their market's settlement cycles to work together collaboratively on:

- Work with sell-side, buy-side, and securities services participants in key market centres around the world that represent significant cross-border transaction volume into their markets to evaluate the known issues to be solved and identify any unknown issues. Once identified, determine the impact of them on international investors and market practice. Then, identify operational changes necessary to mitigate the issues and related risks, prior to making any final recommendations, most importantly, before setting a target date for that market to move to T+1.
- Analyze the T+1 business case, not just at a macro-industry level, but on a much more segmented level, assessing the impacts both domestically and internationally. Several surveys of industry readiness for T+1 have shown that certain segments are far less advanced in their preparations to move to T+1 than others. While this may vary from market to market, the WG feels that the readiness data shows that the sponsors of T+1 explorations should work very early with investment management firms of all sizes in market centres around the world that invest in their domestic market's securities. The aim should be to identify all the challenges from those firms' perspectives and develop solutions or risk mitigants, prior to making any final recommendations, including setting a target date for that market to move to T+1.
- Once the solutions and risk mitigants are agreed and scoped for implementation, the sponsors should include end-to-end testing of international transactions in their T+1 "Playbook". This ensures that transactions related to the areas of enhanced challenges for international investors are solved prior to implementation. Ideally, regulators, central banks and/or market infrastructures could require that all critical market practice changes necessary to implement T+1 settlement successfully, be in place and utilized by all market participants for a significant period prior to the targeted implementation date of T+1 settlement.
- Specifically related to Foreign Exchange (FX), ISSA recommends that domestic markets, with collaboration from investment managers in key geographic markets for cross-border transactions into their market, reach out to the FX/international payments industry to analyze the obstacles in both execution/liquidity and settlement, before finalizing plans to move to T+1 settlement. The FX issues presented by the move to T+1 are discussed in more detail in Section 6.

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1 ISSA and the T+1 Global Impacts Working Group

The International Securities Services Association (ISSA) is an international industry association, headquartered in Zurich, dedicated to supporting the Securities Services industry with 143 members representing Custodian Banks, Central Securities Depositories, technology companies and other firms which are actively involved in all aspects of the industry. As part of its efforts to address and solve industry issues, ISSA runs Working Groups (WG) which provide best practice guidelines and recommendations that help change the future of securities services for the better.

A current ISSA WG is focused on the Global Impacts of the initiatives in various domestic securities markets to reduce the settlement cycle of securities trading. The current global standard is two business days following trade date and several jurisdictions are exploring, and some are implementing or have implemented, a move to one business day after trade date, more commonly referred to as the move to T+1 settlement. For jurisdictions where the move to T+1 is mandated, ISSA fully supports such a move and is of the opinion that it could lead to systemic improvements, as well as fostering increased levels of automation and straight through processing, especially in the area of institutional transaction processing. However, ISSA recognizes that in some jurisdictions, the overall environment, notably regarding the market structure, justifies that such a move should be carefully assessed. In these jurisdictions, the move would imply not only operational and legal challenges but also significant costs and potential negative impacts on settlement efficiency.

While ISSA has been following the various T+1 initiatives closely, many of our members felt that the initiatives were mainly being analyzed through the lens of the domestic market and domestic market participants. They are not sufficiently focused on the impacts on cross-border transactions into those markets and the firms from outside the domestic market country or region, especially when settlement cycles are not aligned. Thus, ISSA's T+1 Global Impacts WG was formed to identify the challenges in moving to T+1 for non-domestic investors. The aim is to analyze the impacts of these challenges, suggest mitigation and best practices to reduce or negate these impacts and decide whether discussion with public stakeholders would be appropriate.

This paper describes the results of the WG's research into the Global Impacts of the move to T+1 settlement and ISSA's recommendations to domestic markets that pursue such initiatives in the future.

2 A Brief Comment on the Possibility of Moving to T+0 Settlement

The WG did not take up the potential to move to T+0 settlement and the resulting global impacts. ISSA feels that the post-implementation analysis and the lessons learned from the move to T+1 must be conducted and analyzed well before turning serious attention to the feasibility and desirability of potentially accelerating the settlement cycle further, to T+0. ISSA postulates that a move to T+0 would require a much more fundamental overhaul of capital markets industry, FX/payments industry and securities services industry processes. Such a move would require a fundamental change in market structure, including in the roles of execution marketplaces and providers of CCP and CSD and custody services.

It is not clear whether the proven, highly scalable, and highly resilient legacy technologies can be modified to support such an extensive overhaul and if not, what newer technologies may be more appropriate for that overhaul while meeting the industry's' scalability and resilience requirements.

Further, T+0 could be implemented either on an end of business day basis or atomic basis, and ISSA questions whether a move to atomic settlement, which would certainly imply elimination of multi-lateral netting of market-side trades, is desirable. Such a move to atomic settlement could lead, as it is in the case in some jurisdictions (e.g., China), to the need to prefund each individual trade and result in significantly higher liquidity and funding costs, negatively impacting the economics of the securities transactions for the investor.

3 ISSA Recommendations

There are many areas of post-trade processing that must be re-engineered to allow for a successful implementation to T+1 settlement and those have been well documented by the various bodies sponsoring the initiatives.

Virtually all those areas apply to trading by both domestic investors and their trades and international investors and their cross-border trades. Several of those areas impact international investors much more significantly and there is one area of post-trade processing which must be re-engineered that is unique to cross-border transactions.

The WG identified many such areas and many of them have been documented in publicly available papers published by other organizations, several of which we this paper highlights in Section 5.

Unique Issue for International Investors – Foreign Exchange (FX)

The unique issue for international investors is FX transactions related to their buying/selling of securities in a market that moves to T+1. The FX market is the largest financial market in the world and is operated by a different industry segment, with its own trading and settlement conventions and market infrastructure that processes the vast majority of FX transactions. The spot market for FX currently supports the bulk of execution liquidity between mid-day and 5:00 p.m. CET and settles on a T+2 basis, with some T+1 settlement availability, but very little T+0 availability.

There is no corresponding initiative by the global FX market to shift spot market settlement to T+1, and that presents significant obstacles to many international investors, causing them to significantly overhaul their approach to funding their cross-border securities transactions, and may cause their transaction costs to rise significantly.

Issues Faced by Domestic Investors with a More Significant Impact on International Investors

Several areas of post-trade processing require significant changes and have been well documented. However, in the view of the WG, the impact of these areas on international investors is much more significant and challenging to make the necessary changes. These include most importantly:

- Time to get executed trades allocated, confirmed, and affirmed and instructed to custodians.
- Time to address exceptions by settlement close.
- Stock loan returns.
- Corporate Actions.
- Global products with components from markets moving to T+1 - ETFs and depositary receipts.

The overall analysis yielded **four high-level strategic recommendations** for domestic securities markets exploring the desirability of moving to T+1 settlement:

- Work with sell-side, buy-side, and securities services participants in key market centres around the world that represent significant cross-border transaction volume into their markets to evaluate the known issues to be solved and identify any unknown issues. Once identified, determine the impact of them on international investors and market practice. Then, identify operational changes necessary to mitigate the issues and related risks, prior to making any final recommendations, most importantly, before setting a target date for that market to move to T+1.
- Analyze the T+1 business case, not just at a macro-industry level, but on a much more segmented level, assessing the impacts both domestically and internationally. Several surveys of industry readiness for T+1 have shown that certain segments are far less advanced in their preparations to move to T+1 than others. While this may vary from market to market, the WG feels that the readiness data shows that the sponsors of T+1 explorations should work very early with investment management firms of all sizes in market centres around

the world that invest in their domestic market's securities. The aim should be to identify all the challenges from those firms' perspectives and develop solutions or risk mitigants, prior to making any final recommendations, including setting a target date for that market to move to T+1.

- Once the solutions and risk mitigants are agreed and scoped for implementation, the sponsors should include end-to-end testing of international transactions in their T+1 "Playbook". This ensures that transactions related to the areas of enhanced challenges for international investors are solved prior to implementation. Ideally, regulators, central banks and/or market infrastructures could require that all critical market practice changes necessary to implement T+1 settlement successfully, be in place and utilized by all market participants for a significant period prior to the targeted implementation date of T+1 settlement.
- Specifically related to FX, ISSA recommends that domestic markets, with collaboration from investment managers in key geographic markets for cross-border transactions into their market, reach out to the FX/international payments industry to analyze the obstacles in both execution/liquidity and settlement, before finalizing plans to move to T+1 settlement. The FX issues presented by the move to T+1 are discussed in more detail in Section 6.

The recommended cross-border outreach can be greatly aided by industry associations, both global ones and domestic ones in the leading international marketplaces. Several of those industry associations have published papers on T+1 and many more have, on their own, or in collaboration with other industry associations, sent comment letters to sponsors of T+1 initiatives, identifying challenges for international investors. ISSA has most recently joined a group of 17 industry associations in providing feedback to ESMA in the context of the "Call for Evidence on T+1" which focuses heavily on the potential impacts to international investors around the world of a future potential move to T+1 by European securities markets.

4 Global Nature of T+1 Initiatives

Several leading capital markets centres have announced plans to accelerate the settlement cycle for equities and other asset classes, from the current global standard of T+2. India has successfully implemented a T+1 settlement cycle, using a phased approach, driven by its securities market regulator. Industry bodies in the US proposed a study of T+1 back in February 2021 and following that study, in February 2023, its securities market regulator issued a final rule mandating T+1 settlement for US equities and associated asset classes, with a firm "Big Bang" implementation date of May 28, 2024.

Given the close integration of Canada's capital markets with that of the US, Canada's industry bodies, with the support of its regulator, also announced plans for moving to T+1 and will implement, also with a "Big Bang", on May 27, 2024. Mexico will also implement T+1 settlement on May 27, 2024.

The UK and European markets announced explorations of accelerating their settlement cycles as well, though no firm conclusions have been reached. While recommendations may be issued in the coming months, no firm decisions should be made until after gauging the impacts of the US, Canada, and Mexico implementations, especially the global impacts on cross-border investors and market participants.

These explorations have identified challenges for cross-border transactions, including for example, the difficulties in getting associated FX transactions executed and settled in time to fund the securities trade. Moreover, it has been made clear that many if not all the challenges that domestic investors and market participants face are significantly more challenging for investors and market participants from other countries. Not all markets have very high levels of cross-border investment. However, in the case of the US, the latest US Treasury Report shows that 19.6% of all securities and

16% of equities are held by investors outside the US¹, so there can be large differences in the volumes of cross-border transactions into different markets.

ISSA has closely followed these explorations and preparations for implementation and reached one high level market practice recommendation: Industry bodies, financial market infrastructures and regulators that embark on studies of potentially accelerating their settlement cycle, should reach out to investors, market participants and regulators in all regions of the world that transact in their markets, to analyze the impacts on cross-border transactions, well before making any firm decisions, including any target date for implementing an accelerated settlement cycle. Failure to do so can possibly lead to unintended consequences. It is likely that the readiness to implement the change is far lower for investors and market participants located outside the domestic markets. This can lead to a relative drop-off in cross-border transaction levels, at least until the international market participants are able to mitigate the significantly higher impacts they face.

5 Other Recent Papers Aligned with ISSA's Views

ISSA is not replicating the excellent work of other industry associations, but we do wish to amplify some of their findings with respect to the more significant impacts for cross-border investors and market participants. These more significant impacts for cross-border transactions buttress ISSA's overall recommendation for domestic markets to engage with investors and market participants about these global impacts and how to mitigate them, before deciding to accelerate their securities settlement cycle. In this section, we reference some of these papers and some key findings they document that ISSA feels are significant for cross-border transactions.

A. AFME

AFME represents a broad array of European and global participants in the wholesale financial markets. Its members comprise pan-EU and global banks as well as key regional banks, brokers, law firms, investors and other financial market participants. AFME advocates stable, competitive, sustainable European financial markets that support economic growth and benefit society.

In October 2023, AFME published a paper entitled "**Improving the Settlement Efficiency Landscape in Europe**".²

The report includes analysis, a set of recommendations, a roadmap, and pertinent annexes.

Analysis identified that the principal direct drivers of settlement inefficiency relate to:

- Counterparty behavioural factors, affecting the ability to match and allocate trades.
- Data quality issues, likewise, affecting the ability to match and allocate trades.
- Inventory management issues affecting the ability to settle matched trades.

The AFME recommendations, are in three areas and can be broadly summarised as follows:

Reduce Exceptions

- All information necessary for settlement to be provided on Trade Date, supported by a regulatory requirement to complete allocation and confirmation processes on Trade Date.

¹ https://home.treasury.gov/system/files/136/shi2022_report.pdf

² https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME_SettlementEfficiency2023_07%20final.pdf

- Develop solutions to known reference data issues (including instrument and calendar data) and improve the exchange of non-economic trade data, such as SSIs.

Expedite Exception Resolution

- Assess the possible adoption of a Unique Transaction Identifier (UTI) in post-trade processes.
- Address known gaps and inconsistencies in market standards, including on “give-up” transactions.
- Ensure consistent criteria and tolerances between pre-settlement matching and CSD-level matching, including Place of Settlement (PSET) as a matching criterion.

Optimise Settlement of Available Inventory

- CSDs to offer auto-partial settlement and hold with partial release.
- Intermediaries to facilitate and encourage use of auto-partial/partial release by end users.
- CSDs to increase frequency of settlement batches or adopt real-time settlement, with increased harmonisation to support cross-border settlement.

In September 2022, AFME published a paper entitled “**T+1 Settlement in Europe: Potential Benefits and Challenges**”.³

Obviously, time zones/time constraints are a complicating factor for virtually all the challenges for international investors and market participants. AFME illustrated this very well in their paper:

- “Intuitively, one might think that a migration from T+2 would reduce the available post-trade processing time by 50%, however AFME estimates this to be approximately 83%, with settlements teams having only 2 core business hours between the end of the trading window and the start of the settlement window, compared to 12 core business hours in a T+2 environment. We assume settlement teams operate in core business hours of 08.00 to 18.00, and that the trading day concludes at 16.00.”

AFME also documented that the funding challenges are significantly higher for global investors than for domestic investors:

- “Liquidity and cash management processes will also be compressed into a shorter timeframe, to ensure that the correct funding is in place in time for settlement. This is particularly challenging for cross-currency transactions which have an FX component. Current liquidity in FX markets is largely on a T+2 basis, and unless this also adapts to T+1, this may result in settlement issues for the contingent securities transaction. Moreover, the necessary FX transactions typically takes place once the security purchase has been confirmed. Therefore, should the security purchase take a long time to be confirmed or should it be delayed, a T+1 schedule might even result in T+0 for FX.”

³ https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME_Tplus1Settlement_2022_04.pdf

B. GFMA Global FX Division

The GFMA Global FX Division has 25 members, accounting for the majority of the global FX inter-dealer market. They work to promote confidence in the FX market and its practices and enhancement of standards and ensuring a well-functioning, efficient and cost-effective global FX market for all end users, acting as a central forum for discussion, supporting members on implementation of new regulations, enhancing consistency and compliance.

In their May 2023 paper “**FX Considerations for T+1 US Securities Settlement**”,⁴ they highlight the mismatch between the proposed settlement cycle for US equities (T+1) and the current settlement cycle for the associated FX transactions for global investors (T+2) as well as the time frame for getting any irregular FX transactions (those potentially settling away from the spot market on a T+1 or T+0 basis) into the Payment Versus Payment settlement process in CLS. Some notable findings from that paper include:

- “Accelerating US securities settlement to T+1, raises the risk that transaction funding dependent on FX settlement, may not occur in time.”
- “Cross-border US security transactions with a related FX trade will require the expedited execution of both trades to enable settlement to be completed in the shortened T+1 window.”
- “FX trades that miss the CLS cut-off time can still be booked for T+1 value providing they are transacted before local currency cut-off times and will be settled outside of CLS therefore, whilst Settlement Risk mitigation can take place, this will not involve CLS and therefore likely to attract increased levels of Settlement Risk.”
- “Funding – Pre-funding may be required for certain transactions where there are time zone challenges, especially Asia. Pre-funding within the existing trade life cycle can add additional cost and call into question the economics of the investment in the underlying security.”

C. UK Finance

UK Finance represents more than 300 firms across the industry. It seeks to enhance competitiveness, support customers, and facilitate innovation. Their primary role is to help its members ensure that the UK retains its position as a global leader in financial services. To do this, they facilitate industry-wide collaboration, provide data and evidence-backed representation with policy makers and regulators, and promote the actions necessary to protect the financial system.

In August 2023, UK Finance published “**Accelerated Settlement – Examining the case for trades to be settled more quickly in the UK- Moving to T+1**”.⁵

In commenting on how the UK should go about its own exploration of potentially accelerating its settlement cycle, they call for more intensive cross-border analysis of accelerating settlement cycles:

- “In addition, the interests and perspectives of global investors and international market participants, were not fully taken into account in the US decision to move to T+1. Cross-border activity and dual-listed instruments would also have benefitted from greater consideration and clarification.”

Among other factors, UK Finance focused on the funding/liquidity challenges of T+1 settlement for cross-border transactions:

⁴ <https://www.gfma.org/wp-content/uploads/2023/05/gfxd-fx-considerations-for-t1-u.s-securities-settlement-may23-003.pdf>

⁵ <https://www.ukfinance.org.uk/system/files/2023-08/Accelerated%20Settlement%20-%20July%202023.pdf>

- “Foreign Exchange (FX) – the misalignment between different jurisdictions would most likely require pre-funding, which firms would need to provide from their balance sheet, introducing additional cost, which could be faced by the end investor, therefore reducing the attractiveness of the UK. There might also be wider spreads at market close, leading to lower liquidity and therefore increased costs in the FX space.”
- “A further consideration is the potential for reduced access to liquidity in the FX market to support cross-currency trades, especially for investors. The industry will need to develop solutions to provide efficient access to liquidity outside of the current standard FX operating hours.”
- “Interest rate risk is the risk arising from changes in interest rates. Higher interest rates are likely to make borrowing more costly. In a T+1 environment, market participants may have to borrow more, for pre-funding purposes. Therefore, in the current macroeconomic environment, firms will need to pre-fund on behalf of their clients, which will come at a cost.”

D. S&P Global Market Intelligence

In June 2023, S&P Global Market Intelligence issued its paper entitled “**No Time to Settle? Get Ready for T+1 and Beyond**”.⁶ This paper surveyed market participants on the challenges in moving to T+1 and succinctly summarized them as follows:

- “Moving from T+2 to T+1 means not simply the loss of a trading day. Unlike previous settlement timeframe reductions, it is effectively a halving of the time currently available to handle issues that may arise in the process. Depending on the timing of particular trades, the timeframe could be even tighter.”
- “FX trades traditionally settle on T+2. T+1 for securities will ostensibly require either a change to the FX process or pre-funding of transactions.”
- “Corporate Actions currently have an ex-date one day prior to record date to allow for any late issues to be resolved. In a T+1 environment, these may need to be same day.”
- “Securities lending will require an earlier return of lent securities.”
- “Cross-border settlements will be out of kilter with time-zone differences adding additional pressure to post-trade pre-settlement processes.”

E. The Investment Association

The Investment Association champions UK investment management, with 250 members ranging from smaller, specialist UK firms to European and global investment managers with a UK base.

In an October 2023 paper entitled “T+1 Settlement Overview – Considerations for the buy-side”, The Investment Association discussed the unequal accrual of benefits of moving to T+1 and the challenges presented by the need to execute FX transactions associated with cross-border securities trades:

Disproportionate impact of the benefits

- “Whilst the benefits listed above could result in a more efficient market, they will not impact all participants to the chain equally. Whilst large sell-side entities with many trades being cleared will enjoy a large reduction of capital necessary to serve as collateral, it’s not clear how these savings will be passed down to the fund and the clients they service.”

⁶ <https://cdn.ihsmarkit.com/www/prot/pdf/0523/FV-SP-Whitepaper-2023-Mon-15-FIN.pdf>

FX Settlement – Decrease in PvP netting, increase in counterparty risk

- “As described in the section on FX, a move to T+1 in the US (and potentially in the UK and Europe), limits the amount of trades that can settle through PvP netting through services such as CLS Settlement”.
- “The CLS Settlement deadline for next-day settlement is 6PM EST, with custodians adding their own 1-2 hour deadline for the buy-side to send instructions (4-5PM EST). Given the FX is instructed off confirmed trades and the US equities market closes at 4PM, this leaves very little, and in some cases zero, time for an FX transaction to be instructed, agreed and sent to settle via CLS Settlement.”
- “Whilst EMEA firms are looking at amended FX practices, a move to T+1 securities settlement will mean a greater amount of bilateral gross settlement of FX transactions, which increases counterparty risk and can increase operational cost for firms.”

F. European T+1 Industry Task Force

- AFME is coordinating a joint task force involving 17 trade associations representing the sell-side, the buy-side, custodians, CCPs and CSDs. Some International trade associations are also part of this European Task Force, like ISSA, which focuses on cross-border issues.
- The European task Force aims at reviewing the main impact for EU market participants of the move to T+1 in non-EU jurisdictions, US notably.
- The Task Force is also highly engaged in ongoing consideration of the potential adoption of shorter settlement cycles in Europe, especially in the current context of cost and benefit analysis and any discussions the European authorities would like to have.
- Task Force members agree that the challenges of European T+1 are greater than (a) US migration to T+1 and (b) previous EU initiatives to shorten settlement cycles, e.g., T+3 to T+2.
- Task Force members also agree that adoption of T+0 is not a realistic near-term policy option and will provide this feedback in the Task Force’s reply to the ESMA Call for Evidence.

6 The “Key Challenges” for Global Investors and their Service Providers

In this section, the WG discusses the biggest issue uniquely presenting challenges to international investors, plus some of the issues that, while presenting some challenges for domestic investors, present significantly more challenges for international investors. This is not a full list, but rather a subset of issues that ISSA believes are the most challenging for international investors.

A. Unique Challenge for International Investors – Funding/FX

The challenge on FX emanates from the fact that the Spot Market in FX operates on a T+2 basis and there are established timeframes for getting executed trades into Payment versus Payment (PvP) netting/settlement at CLS. The move to T+1 in equities markets significantly impacts the ability of international investors to get funding in place to settle the securities trade on time. When looking at the US market as an example, the liquidity and settlement impacts play out as follows:

- The US equity market closes at 4:00 p.m. EST, two hours before the 6:00 p.m. EST CLS deadline for inputting trades for PvP netting.
- The executing brokers will send out final execution notices up to, and sometimes, just past market close.
- The investment managers then run those through their trading and portfolio management systems and send back to the executing brokers, allocations, naming each institutional investor account the shares were

purchased for. The broker then generates legal trade confirmations for each investor that are then matched or affirmed and staged into the settlement process at DTC, to settle the next business day, on T+1. That all needs to happen by 9:00 p.m. EST on T.

- The FX problem is two-fold. The first issue is that the CLS cut-off time for input of FX transactions into their PvP multi-lateral netting settlement process is 6:00 p.m. EST (and it is likely that the cut-off for the custodians for each investor is an hour or two earlier and, in some cases, even earlier than that). The second issue is that currently there is very little liquidity to execute FX transactions for each investor between 4:00 p.m. and 6:00 p.m. EST and for the liquidity that exists, spreads are relatively wide. Currently, under the T+2 securities settlement convention, for international investors, most of the FX transactions are not actually executed until the day after the securities trade was executed, thus FX execution is on T+1 in the EMEA morning, (or potentially later, just before the market close at 4:00 p.m. CET in EMEA) and can easily be instructed to the custodians and onward to CLS by the CLS 6:00 EST p.m. cut-off on T+1 for PvP net settlement in CLS.
- In the future, in a T+1 securities settlement environment, a FX trade looking to benefit from PvP netting and settlement, will need to be executed right after 4:00 p.m. EST, assuming sufficient liquidity becomes supplied then to meet that demand. Any FX trades that are successfully executed then would then have a very short time window to get instructed through the custodians to CLS.
- If there is not sufficient FX liquidity in the evening of T+0 (following the US equity market close) the FX trade will be executed the next morning (T+1 for the security trade) and will require settlement within a few hours and clearly those FX trades will instead settle as bilateral gross transactions, increasing operational complexity and with additional counterparty risk.

At the time of publication of this paper, CLS management had initiated an exploration of the feasibility of extending the input of FX transactions into PvP netting and settlement by up to 90 minutes. Such an extension would be helpful in getting late in the day executions into PvP, assuming that custodian banks extended their cut-off times as well, though it does not in and of itself, alleviate the lack of liquidity late in the day to execute FX transactions.

If there is a bank holiday in the base currency of the investor, it becomes impossible or near impossible to trade FX as the central bank of the other side of the FX transaction will be closed. This may require potential solutions such as prefunding, using alternative currencies to exchange for the currency needed for settlement, or extended settlement and may lead to increased costs for the investor.

A further consideration is Non-CLS eligible currencies. If a market's base currency is not eligible for CLS, there is limited liquidity in the FX market. In these markets investors may have further pressure to pre-fund their cross-border transactions.

Any domestic securities market contemplating a move to T+1 settlement may wish to open discussions with global investment management firms as well as representatives of an adjacent industry – FX/International Payments– to gauge the impacts on funding including both the potential liquidity availability impacts, as well as the settlement risk impacts, and the potential higher costs on tapping the needed liquidity, including potentially pre-funding the securities trade, and potentially settling many more FX trades bilaterally.

B. Time to Get Executed Trades Allocated, Confirmed, and Affirmed and Instructed to Custodians

Investment managers for institutional investors perform a critical set of processes in receiving execution notices from executing broker-dealers. These include:

- Allocating the executed share quantity to various institutional investor accounts.
- Communicating those to the executing broker-dealers.
- Affirming the resulting legal trade confirmation produced by the broker-dealers.
- Instructing custodians to settle the trades with the executing brokers.

This process must speed up considerably in a T+1 settlement cycle. For example, for the US, market practice will be for trades to be allocated by 7:00 p.m. EST and affirmed by 9:00 p.m. EST, which corresponds to 1:00 a.m. and 3:00 a.m. on T+1 CET. This 9:00 p.m. EST cut-off ensures that the trades are moved automatically from institutional post-trade processing into the high-capacity “night cycle” settlement process, which is differentially less expensive for the CSD participants. It should be noted that the US regulation provides until 11:59 p.m. EST on T for affirmation and that for any trades affirmed between 9:00 p.m. and 11:59 p.m. EST, the settling parties must submit the transaction for settlement to the CSD separately and any submitted by 11:15 p.m. EST will enter for night cycle queue processing. Those entered after 11:15 p.m. EST will be processed in the “day cycle process”

Moving to a T+1 settlement cycle will likely lead many investment managers to invest in greater levels of automation in many or all aspects of this process. In a fully automated situation, the allocations sent by the investment managers can be centrally matched to the subsequent confirms sent by the broker-dealer, leading to automated affirmation. This can also generate instructions to the custodians to settle the trades, which in turn can automatically trigger instructions to the CSD. If a market does not require affirmation, the matching is done at the CSD from the instructions from the custodian and the broker-dealer (pre settlement matching) and then processed further for settlement.

For cross-border trades, all this critical processing is exacerbated by time zone differences, especially relating to correcting trades that do not match and subsequently do not get affirmed and instructed to custodian banks and CSDs by the domestic market’s established cut-off times. Delays in completing the allocation/confirmation/affirmation process may also be caused by incorrect static data, including standing settlement instructions, incorrect commission rates and new account set-up at the allocation level, all of which will delay preparations for settlement.

C. Time to Address Exceptions by Settlement Close

The amount of time available to international investment managers to work on any corrections will be significantly less in a T+1 settlement cycle market.

Some key causes include:

- Incorrect Standing Settlement Instructions (SSIs).
- Invalid account information.
- Incorrect commission rates
- Incorrect settlement terms.
- Insufficient holdings.
- Insufficient cash.
- Late instructions.

Some of the issues can be addressed by effective static data management or adopting best practices that are available in the market. For example, setting up correct SSIs and maintaining them through real time updates via API or standard communication protocols will help to keep SSIs accurate and reduce resultant fails.

For executing broker-dealers, automated processes for prompt account opening and initial KYC/AML processes are required when receiving an allocation for a new institutional account, especially in the case of international investors located in different time zones.

Investments in automation around the entire post-trade/pre-settlement process, including having real-time views into available securities and cash holdings and the status of all post-trade steps, will serve to reduce the number of exceptions that must be resolved to prevent a significant increase in settlement fails. Clearly, domestic investment managers domiciled in a country which is adopting T+1 settlement will be forced to make such investments to efficiently participate in their domestic securities market. However, international investors participating in that market may in fact delay such investments until such time that their domestic markets reduce its settlement cycle to T+1. If that is the case, then for the few years or more that there may be a misalignment between major market centres regarding settlement periods, there may be an increase in exceptions and potentially fails for cross-border transactions - this has been seen in past periods of misalignment.

As noted earlier in this paper, in a September 2022 paper, AFME estimated that the move from T+2 to T+1 would reduce the available post trade processing time by approximately 83%. During the significantly reduced period, all the potential exceptions discussed above must be addressed before the CSD settlement cycle cut-off time, or the trade will not be settled on time. This may cause international investment managers to not trade in the market, or where the market is more important, to reallocate staffing in various geographic locations or during late/early hours in their home markets, increasing the cost to the investors.

D. Stock Loan Returns

T+1 leads to compressing time for some specific tasks (see previous sections). When the automation is not seamless and human intervention is required, it also reduces the available time along the chain. This can start with the trading desks which may occasionally “fix/repair” some situations the morning after T, (trade date) including commission rate discrepancies, and other causes of unmatched trades and possibly unbooked trades. These repairs can be significantly impacted by time zones and may push certain processes not to be completed until T+2, or in some cases, even later. All of this impacts the funding estimation and requisition process, including securities financing transactions.

Until the full picture of sale trades is acquired by a custodian from its clients, which in the case of cross-border trades is impacted by time zone differences, they will not be aware of their projected inventory. Hence, they may not know the securities that were sold outright that were out on loan to stock loan borrowers. These loaned securities will need to be recalled quickly to be received back by the custodian to deliver to the executing broker on behalf of the custodian’s institutional client. Currently, in many cases, this process takes more than a business day. For securities markets that are moving to T+1 settlement, cut-offs on submitting recall requests and honouring those via return of the loaned securities, and associated service level agreements, may need to be reviewed and adjusted for each market/time zone.

Notwithstanding operational improvements (manual processes will be under additional stress in this context), securities that had been out on loan when sold, may not be available on T+1, hence negatively impacting settlement fails. An additional concern is that lenders may withdraw from the market so that they know they have the inventory on hand to settle. This may well impact liquidity and price discovery.

In the case of the US market, ISSA understands that new market practice rules will go into effect in May 2024, requiring stock loan recall requests be made by 11:59 p.m. EST on T, and that the borrower must return the securities to the custodian within 48 hours, or more specifically, the returns must be made by the DTC deliver order cut-off of 3:00 p.m. EST on recall date plus two business days. Thus, for a recall instructed at say 11:00 p.m. EST on T, if the borrower does not return the borrowed securities by the DTC cut-off on T+2, the sale trade will fail on both T+1 and T+2, unless the custodian for the institutional investors whose securities were loaned out, can make other securities in the custodian’s

inventory available to avoid the fail. This industry best practice is superseded by the service level agreements that the two parties have with each other.

E. Corporate Actions

Even though there is no direct impact on corporate actions due to shortened settlement cycle, there are some indirect impacts that must be addressed. Two areas of concern are Ex-date Processing and Cover Protect Processing.

Ex-Date Processing

In the current T+2 settlement cycle, the Ex-date falls on the trading day prior to the record date. With the move to T+1 settlement, the Ex-date (cut-off point for shareholders to be entitled for dividend) and Record date (cut-off established as per company book of records) will in turn fall on same date. As Ex-date is one day minus one when the settlement cycle is T+2, the time period between Ex and Record date will also change in case of T+1 move. The data announcers (issuers, their custodians and the CSD) will need to significantly adjust their announcement process for the new events. The corporate action market is already under pressure with high-cost challenges due to data sourcing and data inconsistency issues. If Ex/Record date is not announced correctly with shorter settlement cycle impact, and the time for each is not clear, then it will cause additional processing errors. Data vendors will also have to follow these changes. In addition, it is very important that market infrastructures adjust the order of dates in line with the new trading cycle. Failure to do so will result in reverse claims adding considerable burden to the market.

Inflight events may come under further pressure with the need to receive subsequent updates on Ex/ Record and to receive correct entitlements as of new Ex/Record date (which will be same in T+1 settlement world). Existing data providers and custodians/CSDs would need to adjust their inflight events processes accordingly and to refresh the positions based on the updated Ex/Record date. There is an open question on the applicable date at the time the move to T+1 is implemented by the domestic market. It seems that in the jurisdictions where T+1 is mandated, the point is still open, but in ISSA's view, it would make sense to agree that the events were already announced prior to the T+1 implementation date are to follow the dates that were valid at the time they were announced and all events announced past the T+1 move should be processed as per the new rules.

From a cross border perspective, the impact on corporate action processing might occur in case of dually listed securities with the same ISIN. Depending on the key dates (Ex-date and record date) set for the corporate action, issues might occur. For example, if the record date in the US market and a European market are set equal, but the ex-date is different (linked to trading), then a price difference might provoke arbitrage between the two markets. If trading occurs a day before ex-date, and settlement in the European market is T+2, the trade will fail and provoke a market claim.

Cover Protect Processing

In some markets issuers commonly offer, on voluntary corporate action events, a "Guaranty of Delivery" period otherwise known as a "Cover Protect" option, (e.g., US market). This allows investors to purchase securities on an offer's expiration date and still participate in the offer, prior to the settlement of the purchase trade. By moving to T+1, the Cover Protect date (the date the securities must be presented to the issuer or the issuer's agent) will also be reduced by one day. In the case of a dually listed security, if the purchase was made on a marketplace with T+2 settlement, the security may not be received in time to fulfil the delivery requirements of the Cover Protect instruction on T+1. All organizations will need to review their announcement platforms to ensure they are announcing the accurate Cover Protect date so that they ensure they deliver the securities by the date as required by the terms of the voluntary corporate action event.

The Cover Protect process is for when elections are instructed to the issuer on behalf of a client who has not yet received the shares due to an executed but unsettled trade. The initial protect instruction will be sent upon receipt of elections, however, cover instructions will now need to be sent on T+1, after making sure the trade is settled, or else the elections will be rejected. Note the cover protect instructions also follow a specific cut-off time as advised by the market infrastructure (e.g., in the US 9:45 –10:45 pm EST prior to the start of settlement cycle 11:30 pm EST). There is also an additional responsibility to send a liability notice to sell side counterparties by T+0 end of day. The current process for the US market involves significant reconciliation which will need to be automated. Sometimes a client will instruct on an event with the intent to immediately sell the resultant shares, for example, in the event of a unit split. This means that the client issues the sell orders at the same point as they instruct on the corporate action and the T+1 change will mean that these conversions must be instructed at the agent and settled at the CSD in one day, significantly increasing settlement failure risk.

For the cover protect process, some markets have automation in either ISO20022 or proprietary file formats. It is also important for firms to have real time holdings view to allow elections on traded positions. It is also worth mentioning that for events on US/Canadian/Mexican securities held in a cross-border manner in other CSDs (e.g., Europe), the events should be announced and managed with the same order of dates applied in the source country in order to avoid any possible tax issue.

F. Products with a US Component - ETFs and Depositary Receipts

The underlying securities of ETFs are directly impacted by the relevant settlement cycle rules.

Instruments such as ETFs, encompassing a mixed basket of securities (EU, US, Asia) with different settlement cycles, may face funding gaps with subscriptions/redemptions orders. Impacts may vary greatly on ETFs, based on the composition of the underlying securities and the proportion settling at T+1/T+2.

The cash balance of certain type of funds, notably UCITS in Europe, and borrowing rules may be technically in breach for certain ETFs due to this disparity of settlement cycles, but such potential effects would have to be considered together with projections of subscription/redemptions scenarios.

However, the misalignment between the fund subscription / redemption cycle (T+2) and the underlying securities (T+1) could present significant funding and potentially balance sheet issues. In addition, most of the funds are subject to local regulations with potential restrictions around maintenance of a cash buffer or overdraft usage.

In the case of ETFs, any resulting funding shortfall would have to be managed by brokers. In addition, there will be the necessity to move up the timeline for Net Asset Valuation calculation.

7 The T+1 Business Case/ Benefits and Costs for Key Market Segments

The chart below summarizes what the WG believe are the comparative levels of some key benefits and costs that accrue to various key market segments.

Benefit	CCP	Global	Local	Domestic	International
	Member	Custodian	Custodian	Inv. Mgr.	Inv. Mgr.
Reduced CCP Margin	High	N/A	N/A	Low	Low
Reduced Credit Risk	High	N/A	N/A	Moderate	Moderate
Reduced Market Risk	High	N/A	N/A	Moderate	Moderate
Increased Automation/STP	High	Moderate	Moderate	Low	Low

Costs	CCP	Global	Local	Domestic	International
	Member	Custodian	Custodian	Inv. Mgr.	Inv. Mgr.
Increased investment in STP	Moderate	Low	Low	Moderate	High
Increased FX Funding Cost	N/A	N/A	N/A	N/A	High
Increased FX Settlement Risk	N/A	N/A	N/A	N/A	High
Increased Fails on loaned securities	Moderate	N/A	N/A	Moderate	High
Increased Costs on Fund/DR/ETF Liquidity	N/A	N/A	N/A	N/A	Moderate

The key insight from the above chart is that of all the impacted industry segments, international investment managers directly experience the least amount of overall benefits and highest level of relative costs (increased costs relative to their existing costs). This overall conclusion is not meant to insinuate that international investors will not experience a benefit from the move to T+1. The WG believes that they will benefit from the overall project, with decreased risks permeating through the ecosystem. However, many of those benefits will be indirect and are hard to quantify when planning for investments in their front and middle office processing systems. In addition, international investors would also have to face additional risks, especially when they have to manage different settlement cycles.

This insight may explain why international investment managers appear to be the segment that is least ready for the move to T+1 in the US, Canada, and Mexico. As cited in Value Exchange’s “Operationalizing T+1 Pulse Survey Findings” published in September 2023:

- 40% of institutional investors are still in the research and scoping phases of T+1.
- Investors are struggling to realize many of their core projects. 66% of their projects have no close date.
- Readiness to affirm declines as firms are further eastward, with 33% of Asian respondents unclear about whether they will affirm US trades after the move to T+1.
- While readiness of Investors in North America is 88%, in Europe that drops off to 57% and in Asia to 25%.

Key challenges cited by investors included:

- Differences in settlement cycles between US/Canada and other markets – for fund liquidity.
- Executing on systems changes/dependencies on legacy technology.
- Moving stock loan recalls booking to T0.
- Moving FX booking from T+2 to T+1 and/or pre-funding.

For firms that do not expect to be able to comply with market guidelines by the end of May 2024:

- 32% say they plan to be live after May 2024.
- 25% say there is no clear business case for making the required changes.
- 21% say they are still lacking clarity on required market practices.

This relative lack of readiness may be explained by the lower relative ROI these international investment managers have when contemplating automation of middle office processes. An often-cited overall benefit of the move to T+1 is that it will lead to significantly more investment, by investment managers, in automating allocation processing, central matching/affirmation processes, standing settlement instructions and their instructions to custodian banks to settle trades for their institutional clients. The investment managers which have not yet made these investments due to a low perceived ROI, will now be forced to make these automation investments, which in turn will increase their STP rates with their broker-dealer counterparties and custodian banks, to the overall benefit of the entire industry. Another theme for international investment managers is the difficulty in forecasting the impact of T+1 on their overall funding needs, given variables that are hard to quantify, including FX liquidity at different times of the day.

This insight underscores ISSA’s overall recommendation to domestic markets that are contemplating accelerating their settlement cycles to proactively engage with international investors, well before finalizing plans for implementation. This segment is critical for overall success of the initiative and for the above reasons, is likely to be the least ready for the change and the least motivated to make the necessary investments to be ready by the targeted implementation date.

In summary, the following often cited benefits of moving to T+1 may indirectly cause benefits to accrue to international investors, however, upon analysis, they seem to be less directly beneficial to that segment than to other segments, including CCP member broker-dealers, global custodians, and local custodians:

- Reduced Margin at Central Counterparties (Clearinghouses) for broker-dealers on market-side trades.
- Reduced Market Risk: The CCPs and their broker-dealer members will also have reduced market risk in the case of a failure of a CCP member and subsequent liquidation of the failing member’s portfolio of unsettled trades.
- Reduced Counterparty Credit Risk: Investors and broker-dealers maintain counterparty risk until the trade is settled; this is currently two trading days and will be reduced to one in future stat

- Increased automation/Straight Through Processing (STP): The move to T+1 will build on the STP improvements made when the markets moved to T+2 and further standardize timings and best practice for allocation and affirmation/matching processes. All financial institutions are forced to further automate their settlement process to move to T+1. In a shorter settlement cycle, the timeframe to resolve non 'straight through processing' exceptions on T+1 is reduced drastically. This is especially the case for the US market where the affirmation deadline shifts from T+1 to T at 9.00 pm (EST). For European financial institutions, this means 3.00 am on T+1. In other words, with only a physical presence in Europe, the 'practical' deadline is much earlier.

In addition, the following new costs related to accelerated settlement initiatives will tend to be relatively higher for international investment managers and their institutional investor clients than for other segments:

- A potential initial increase in fails rates, especially on cross-border trades and sales of securities out on loan. A decrease of settlement efficiency might require more capacity in operational follow up. However, it will be imperative for financial institutions to invest in improvements to anticipate a shorter settlement cycle.
- Higher Liquidity (Funding) costs, especially on cross-border trades requiring FX transactions, and potentially higher FX settlement risk, if the FX transactions cannot be input into PVP settlement processes.
- Higher Staffing costs due to extended operating models; operational teams providing support later in the day or implementing a follow-the-sun model, and managing additional operational risks created by the reduced timeframes.
- Significant implementation costs. However, these can be viewed as an investment to gain the improved automation benefits mentioned above, especially to speed up allocation, confirmation, and affirmation/matching.
- Increased Borrowing costs to avoid fails on sales of loaned out securities.
- Inconsistent settlement cycles geographically, with the first markets to move potentially far before other markets. This misalignment can cause additional operational risks and funding costs.

8 Appendix

A. Working Group Participants

Working Group Co-Chairs

Name	Surname	Company
Haroun	Boucheta	BNP Paribas S.A.
Kamala	Kannan	S&P Global / IHS Markit

Working Group Participants

Name	Surname	Company
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Christopher	Butler	The Bank of New York Mellon Corporation
Gemma	Campbell	New Zealand Clearing and Depository Corporation Limited
Akhila	Chaganti	Deutsche Bank AG
Alex	Chow	The Investment Association
Jennifer	Cryan	Citi
Simon	Daniel	SWIFT SCRL
Caroline	Diggines	Northern Trust Corporation
Barbara	Domenici	European Central Securities Depositories Association ECSDA
Alex	Duggan	Cognizant
Hannah	Elson	JP Morgan Chase & Co.
Danny	Green	Broadridge Financial Solutions Inc.
Jonathan	Hartwell	Northern Trust Corporation
Prasanna Kumar	Jha	Citi
Emma	Johnson	JP Morgan Chase & Co.
Gareth	Jones	Euroclear
Loana	Juka	Erste Group Bank AG

Christopher	Lam	The Bank of New York Mellon Corporation
Hector	Lau	Hong Kong Exchanges and Clearing Limited
Heidi	Lee	Deutsche Bank AG
Louis	Lesnika	CIBC Mellon
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Douglas	McNaughton	U.S. Bank, N.A.
Koen	Mertens	KBC Group NV
Hui Ying	Mew	Deutsche Bank AG
Nadra	Mueller	Deutsche Bank AG
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Jan	Stelzer	Cofinpro
AN	Tran Quoc	Standard Chartered Bank
Gabor	Varga	Swiss Re Ltd
Damien	Veillard	BNP Paribas S.A.
Deepa	Viswanathan	Deutsche Bank AG
Chris	Vizza	Deutsche Bank AG
Frank	Wang	Deutsche Bank AG