GFMA Global FX Division

Wholesale FX: Ready for Real-Time?

- **Priorities for Trading and Post-Trade Transformation**

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Background to the Global Foreign Exchange Division

The Global Financial Markets Associations (GFMAs) Global Foreign Exchange Division (GFXD) was formed in co-operation with the Association for Financial Markets in Europe (AFME), the Securities Industry and Financial Markets Association (SIFMA) and the Asia Securities Industry and Financial Markets Association (ASIFMA). Its members comprise 25 global foreign exchange (FX) market participants[1], collectively representing the majority of the FX inter-dealer market[2]. Both the GFXD and its members are committed to ensuring a robust, open and fair marketplace and welcome the opportunity for continued dialogue with global regulators.

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[1] Bank of America, Bank of New York, Barclays, BBVA, BNP Paribas, Citi, Credit Agricole, Deutsche Bank, Goldman Sachs, HSBC, ING, JP Morgan, Lloyds, Mizuho, Morgan Stanley, MUFG, NatWest Markets, Nomura, Northern Trust, RBC, Standard Chartered Bank, State Street, UBS, US Bank and Wells Fargo

[2] According to Euromoney league tables

1. Executive Summary

The wholesale FX market is central to global capital markets and the real economy. Any material moves towards shorter settlement cycles, extended operating hours, digital money or new settlement rails must therefore be assessed carefully to ensure that increased speed and automation do not create wider operational, liquidity, credit, market or settlement risk.

A central requirement for any future market structure will be the ability of each market participant to trade and make prices with confidence, supported by timely and accurate access to the data it requires on its own positions, available balances, settlement obligations and applicable risk limits.

Since the GFXD's 2023 paper on Accelerated FX Settlement[3], market participants have continued to assess and implement technology-enabled trading and settlement models to reduce costs, improve efficiencies and access new revenue generating opportunities. Some buyside organisations are already using digital assets and digital-asset infrastructure in defined use cases, while developments in tokenised assets, digital money and payments infrastructure are contributing to demand for shorter settlement cycles, extended trading windows and new asset classes. The extent to which these developments reduce costs, reduce risk or increase market activity will depend on product economics, legal and regulatory treatment, settlement design, operational readiness and market adoption.

This paper uses working assumptions and scenarios to assess the practical implications that may arise if wholesale FX activity moves towards longer operating hours, shorter settlement cycles, greater use of digital money or multiple fragmented trading and settlement channels. The analysis points to three priority "no-regret" capabilities:

- more efficient data exchange across trading, post-trade, credit, treasury and nostro providers
- greater automation and reduced manual exception processing within compressed timeframes
- more resilient systems where continuous or extended operation is required

The Annex provides the detailed trading and post-trade analysis behind these priorities and can be used by market participants as a practical planning checklist.

Public sector engagement will also be important where safe and scalable development depends on legal certainty, supervisory consistency, settlement finality, access to payment and settlement infrastructure, and cross-border alignment. GFXD encourages continued public-private sector discussion on these issues to support the safe evolution of wholesale FX.

[3] https://www.gfma.org/wp-content/uploads/2023/08/mag-accelerated-fx-settlement-final-july-2023.pdf

2. Introduction

The wholesale FX market continues to be the largest market in the world. The latest Bank for International Settlements (BIS) Triennial Central Bank Survey of foreign exchange and over the counter (OTC) derivatives markets in 2025[4] sized the market turnover at $9.6 trillion/day (up 28% from the 2022 survey), and in the June 2026 Quarterly Review[5] settlement of wholesale FX obligations was sized at over $14 trillion/day. Sovereign entities, central banks and other government-sponsored entities rely on the wholesale FX market to be well-functioning and liquid, and corporations and investors regularly participate in the market for important operational needs:

- To reduce risk by hedging currency exposures
- To pay suppliers and to be paid for services outside their home market
- To convert their returns from international investments into domestic currencies
- To make cross-border investments and raise funding outside home markets

Since the publication of the GFXD's July 2023 paper on Accelerated FX Settlement, market participants have continued to assess and implement a broader range of technology-enabled trading and settlement models, reducing costs, improving efficiencies and accessing new revenue generating opportunities.

Real-world assets are now being tokenised (e.g. equities, money market funds and bonds), digital money is being traded and used for settlement (e.g. stablecoins, CBDC, tokenised deposits, deposit tokens) and the crypto markets continue to mature. These developments are contributing to market discussion about 24/7 and longer operating hours, T0 and instant settlement models and the impacts these would have on FX.

Yet, the FX industry still faces the same historical challenges - namely how to provide wholesale FX services at scale, across borders to a significant number of users with materially different levels of technical sophistication, unique in breadth and type. These challenges are further exacerbated by rising business costs and an increasingly complex cross-border regulatory landscape.

It is with this in mind that the GFXD Market Architecture Group has re-engaged, with the goal of identifying a series of practical steps market participants will need to take to support scalable change. This paper sets out GFXD's assessment of how the wholesale FX market is likely to develop, the factors driving that change, and the practical issues market participants will need to address to operate safely and at scale across fiat and digital models, including 24/7, T0 and instant settlement timeframes.

Given the size and importance of the wholesale FX market within the global economy, any significant changes to either the structure or operation of the market needs careful consideration. Increased speed of trading or settlement should not come at the expense of an ecosystem-wide increase in operational, liquidity, credit, market or settlement risk.

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[4] https://www.bis.org/statistics/rpfx25.htm

[5] https://www.bis.org/publ/qtrpdf/r_qt2606c.htm

The paper's principal findings are set out in the main body, with the detailed analysis provided in the Annex as a checklist designed to support strategic planning. The paper is structured as follows:

- Section 3: What are the Drivers of Change
- Section 4: The Future Structure of the Wholesale FX Market
- Section 5: Analysis of Trading and Post-Trade Flows
- Section 6: Priority 'no regret' Items
- Section 7: Public Sector Considerations and Areas for Engagement
- Section 8: Conclusion
- Section 9: Annex – Trading and Post-Trade checklist

The GFXD looks forward to continuing discussions with regulators, supervisors, and other market participants on these types of issues and the other topics raised in this paper.

3. Drivers of Change

This analysis begins by identifying the principal drivers of change in wholesale FX, and by assessing why market participants may need to adapt their trading and post-trade models. Understanding these drivers is an important input to determining the commercial case for change, prioritising investment, and supporting budgetary decisions. Two main drivers were identified:

- Changing client preferences
- Cost optimisation

3.1 Changing Client Preferences

Some buy side organisations are already using tokenised/digital assets to i) shorten trading and settlement timeframes, enabling them to reduce both post-trade and counterparty-risk costs (e.g. trading and settling T0), ii) reduce funding costs through freeing up trapped capital for re-use (i.e. same day collateral management), iii) create revenue through trading new assets (e.g. tokenised securities, digital ETFs) and iv) trade for longer periods, enabling them to trade at the time of a news event rather than waiting for the markets to open on a Monday morning (e.g. weekend trading).

Similarly, some corporates are looking to reduce costs through optimising their treasury functions via the use of tokenised money market funds and improving the speed of cross-border payments via digital money such as tokenised bank deposits and stablecoins.

Market participants seeking to support activity in tokenised real-world assets/securities by providing FX to fund activity will need to assess how they would fund/trade/process digital money such as stablecoins, CBDC, tokenised deposits and deposit tokens. For example, stablecoin use may require balances to be funded through minting and burning on the appropriate digital rail versus buying in the secondary markets. This will be relevant even when the digital money is fungible/equivalent with fiat as participants will need to understand how balances are created and moved between rails.

Client expectations are also being influenced by operating models developed in retail, remittance and cross-border payments markets, where users increasingly expect faster, more transparent and lower-friction services. These expectations are beginning to shape how some organisations access capital markets, including FX, although the extent of digital adoption in wholesale markets remains use-case specific.

Regulatory developments such as the US GENIUS Act[6] and, EU MiCA[7] are supporting new strategies by providing, greater clarity in certain regions or currencies (e.g. USD).

QUESTION 1: Have you assessed the needs of your client base and does the business plan/strategy support both i) the technical build and ii) support infrastructure required to facilitate and sustain this activity?

[6] https://www.congress.gov/bill/119th-congress/senate-bill/1582/text

[7] https://www.esma.europa.eu/esmas-activities/digital-finance-and-innovation/markets-crypto-assets-regulation-mica

3.2 Cost Optimisation

The analysis identified that the primary cost optimisation opportunities are from i) capital/liquidity utilisation and ii) settlement efficiency.

Regarding capital/liquidity usage, the ability to trade/settle same day can be expected to result in both a reduction in the requirement to hold HQLA[8] as a liquidity buffer, and a reduction in nostro[9] liquidity/funding charges. However, these benefits should be assessed against the associated impacts on treasury funding models, including the need to ensure that funds/balances are available at the right time and location, across multiple existing and new rails, accounts or wallets, particularly where liquidity must be funded in real-time.

Settlement technologies such as stablecoins, deposit tokens, tokenised deposits and CBDCs can create settlement efficiencies by compressing or automating certain steps in the post-trade lifecycle, for example reducing the need for manual confirmations. The extent of these efficiencies will depend on the technology used, interoperability with new and existing infrastructures (i.e. the ability to seamlessly exchange data across technologies without frictions) and the ability to manage associated functions such as funding and reconciliations. Faster settlement may also allow settlement balances to be released and re-used more quickly, where supported by the relevant legal, operational, liquidity and risk-management arrangements. This could improve the velocity of balance-sheet usage and support more efficient deployment of financial resources, although the extent of any benefit will vary by participant, settlement design and funding model.

While faster and more automated settlement may create efficiency benefits, these benefits will need to be assessed against the potential increase in risks and costs arising from greater fragmentation in trading and settlement channels. If future market structures are likely to involve multiple distributed ledger networks, multiple forms of digital money, multiple custody models, new trading, payment and settlement rails, and existing market infrastructure operating alongside new digital infrastructure, participants will need to manage liquidity and related processes across a broader and more complex ecosystem. Interoperability between channels, supported by common standards and robust operating controls, will be important in mitigating these risks and limiting any associated increase in operating costs.

QUESTION 2: Have you identified which solutions best meet your needs and does the business plan/strategy support both i) the technical build and ii) support infrastructure required to facilitate and sustain this activity?

[8] https://www.bis.org/committees/bcbs/basel-framework/basel-framework.pdf

[9] https://www.bis.org/publications/201302-guidelines-supervisory-guidance-managing-risks-associated-settlement-foreign-exchange-transactions.pdf

4. The Future Structure of the Wholesale FX Market

To provide a consistent basis for the detailed analysis of trading and post-trade flows, this paper uses a set of working assumptions about how the wholesale FX market could evolve. These assumptions are not intended to forecast a single market end-state; rather, they provide an analytical framework for assessing the operational, legal, liquidity and risk-management implications that may arise under different future market structures. The resulting considerations and issues are set out in the Annex as a checklist to support market participant planning.

4.1 The Future FX Ecosystem

Consistent with that approach, the analysis used the following working assumptions to test the implications of change to the FX market:

1. The market is expected to involve a mix of fiat and digital money, traditional and new architectures
2. Market participants will need to support i) 24/7 activity, ii) instant settlement, iii) more T0 volume
3. Existing FX products (spot, forward, option, swap) will continue to remain in use, whilst new products will be developed (e.g intraday swaps)
4. Trade volumes are expected to continue to increase
5. The number of trading and settlement channels is likely to increase relative to today's ecosystem

These assumptions were informed by both GFXD member experiences and by feedback from market participants already active in or building services for the new, digital FX ecosystem. Feedback from both organisations developing established networks ('evolutionary' organisations), and from organisations leveraging newer digital frameworks ('revolutionary' organisations), was broadly consistent with the working assumptions above. That feedback pointed to a future market structure where adoption is likely to be use-case specific rather than fully digital, with more partnerships, greater fragmentation and a wider mix of service models.

4.2 Impacts on FX trade flows

The ability to trade and make prices to clients with confidence will remain a core requirement in any future wholesale FX market structure - a trader needs to know their position/available balance before executing. This will require trading, credit, treasury and post-trade functions to have timely and accurate information on positions, available balances, settlement obligations and relevant risk limits before execution. Delivering this will depend on faster and more reliable capture, transfer and analysis of data across the full trade lifecycle, including data from both internal systems and external systems such as nostros.

The GFXD's 2023 paper used timed settlement (i.e. funds settle at a pre-defined time) as an illustrative model because it was an emerging approach that brought forward many of the operational challenges likely to arise under shorter and more time-sensitive settlement models. That analysis highlighted the additional complexity involved in capturing, sharing and assessing data from treasury, credit, post-trade functions and external nostro providers within a defined timeframe. It also showed that this information may need to be available before trading decisions are made, particularly where the ability to quote or execute with confidence depends on knowing available balances, settlement obligations, credit capacity and the relevant settlement timeframe. The complexities identified in that analysis remain relevant today,

as the data, infrastructure and communication processes needed to support time-bound settlement have not yet been automated or adopted at scale.

With these challenges in mind, two illustrative examples are set out below. Figure 1 compares the trade-flow implications of today's model, a timed-settlement model and a simplified example of a future scenario in which a fiat FX trade settles in digital money. Figure 2 then provides a more detailed breakdown of that simplified future scenario.

Figure 1: Client trades GBPUSD: how the settlement model changes the trade lifecycle

- Same client trade, three settlement models
- Functions underlined are new versus today's functions

TODAY
Spot settlement (T+2)

1. Treasury funds firm balance from FX nostros and asset accounts
2. Client buys GBP / sells USD for spot value
3. Trader prices using available GBPUSD liquidity
4. Client agrees price; trade booked in risk systems
5. Trade details confirmed post-trade; pay/receive instructed to nostros
6. GBP and USD paid and received at nostro on settlement date
7. Next-day nostro statement confirms receipt of GBP and USD

KEY CHALLENGES VERSUS TODAY

- No challenges — flows are automated front to back
- Industrialised processes already handle exceptions and fails

TOMORROW
Timed settlement at 3pm

1. Treasury funds firm balance from FX nostros and asset accounts
2. Client buys GBP / sells USD settling at 3pm
3. Trader prices using available GBPUSD liquidity
4. Trade booked including time of settlement
5. Trade details confirmed post-trade; pay/receive instructed to nostros
6. GBP and USD paid and received at nostro at 3pm
7. Real time nostro statement confirms receipt of GBP and USD

KEY CHALLENGES VERSUS TODAY

- Manual intervention required; trade flows, including SWIFT, do not capture settlement time
- Nostros cannot ringfence funds or confirm receipt in real time
- No processes for exceptions/fails — e.g. real time communication and intraday interest claims

FUTURE
Settlement in digital money

1. Treasury funds balance at the required time across FX wallets, nostros and asset ledgers, in fiat and digital money
2. US client buys GBP fiat, settling in digital money in Wallet 1 to fund a tokenised UK bond at a predetermined time on T0
3. Trader prices using fiat GBPUSD liquidity, also now including the wallet and time of settlement
4. Trade booked with settlement time and wallet; Wallet 1 updated; bank and client reconcile the match
5. GBPUSD digital money exchange on Wallet 1 at the agreed time
6. USD and GBP nostro accounts debited and credited at the agreed time
7. Real time nostro statement confirms receipt of GBP and USD

KEY CHALLENGES VERSUS TODAY/TOMORROW

- Trade flows are not currently designed to capture the new attributes
- Complexity rises as more trading, settlement and funding channels are available across fiat and digital
- Nostros cannot ringfence funds or confirm receipt in real time
- No processes for exceptions/fails — e.g. real time communication and intraday interest claims
- Infrastructure and processes untested at scale for real time fiat/digital & trading/settlement

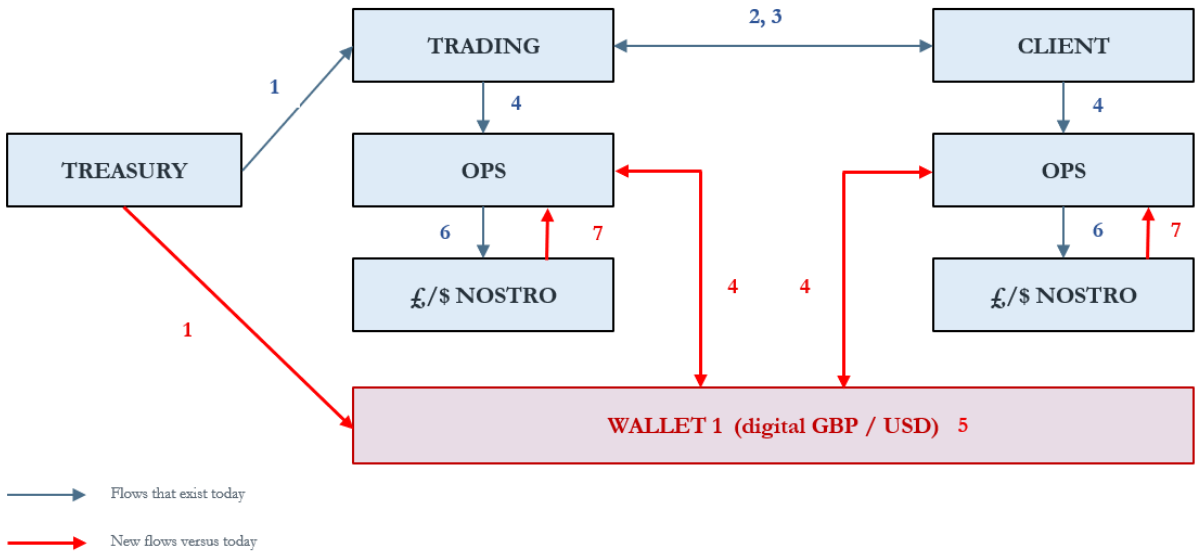
Figure 2: The future model: a GBPUSD trade settling in digital money trade flow

- T0, US client buys GBP fiat, settling in digital money in Wallet 1 to fund a tokenised UK bond
- Steps 1–7 map to the corresponding trade flows; red flows are new versus today and blue are existing flows which may require updating

FUTURE TRADE LIFECYCLE

1. Treasury funds balance at the required time across FX wallets, nostros and asset ledgers, in fiat and digital money
2. US client buys GBP fiat, settling in stablecoin in Wallet 1 to fund a tokenised UK bond at a predetermined time on T0
3. Trader prices using fiat GBPUSD liquidity, also now including the wallet and time of settlement
4. Trade booked with settlement time and wallet; Wallet 1 updated; bank and client reconcile the match
5. GBPUSD digital money exchange on Wallet 1 at the agreed time
6. USD and GBP nostro accounts debited and credited at the agreed time
7. Real time nostro statement confirms receipt of GBP and USD

TRADE FLOWS



The trade flows illustrated in Figures 1 and 2 suggest that moving from today's model to more time-sensitive or digitally enabled models will require material changes across the trade lifecycle, including changes to data capture, funding, settlement, operational controls and exception management.

For example, the simplified future scenario in Figure 1 illustrates that there are required changes at every stage when comparing to today's model, including treasury funding of the digital money balance which will require an additional trade or funding step.

This complexity is likely to increase where participants need to exchange data across a greater number of channels, including settlement rails, wallets and nostro accounts, while operating within shorter execution and settlement timeframes.

Unlike today's model, more time-sensitive or instant settlement models will require a materially higher degree of automation and straight-through processing. Exceptions will need to be identified, prioritised and resolved within compressed timeframes, and firms will need to assess how manual processes can be reduced, including by capturing required data attributes before execution.

5. GFXD Analysis of Trading and Post-Trade Flows

Consistent with the working assumptions set out in Section 4, this section considers the implications for Trading and Post-Trade functions, focusing on the issues most directly affected by shorter settlement timeframes, longer operating hours, greater use of digital money and a more fragmented ecosystem. Associated functions, including Treasury, are referenced where relevant but are not analysed in detail. The resulting considerations are set out in the Annex as a checklist to support market participant planning.

5.1 Trading Analysis

5.11 Strategy

The development of more time-sensitive, digitally enabled or extended-hours models is likely to require significant investment across trading infrastructure, operating processes and control frameworks. Market participants will therefore need to assess how their FX strategy aligns with their broader cross-asset technology and operating-model decisions, and whether common approaches/technologies can be used across multiple product lines. This cross-asset assessment should consider people, processes, and systems, including how existing infrastructure can be adapted and where new digital asset capabilities may be required to support existing flows and emerging client activity.

Feedback received during the analysis suggested that, at least in the near term, FX trading activity is likely to remain in existing trading systems rather than moving directly on ledger. On that basis, areas for further consideration include which FX products and technologies need to be supported, the interaction between fiat and digital settlement models, connectivity to liquidity providers, brokers and digital exchanges, and whether existing functions such as custody services and prime brokerage need to be enhanced.

Market participants will also need to assess how to best meet these new requirements, such as through internal builds, partnerships or third-party solutions.

5.12 People (combined analysis of Trading and Post-Trade considerations)

A material consideration for more time-sensitive, digitally enabled or extended-hours FX models will be how market participants organise coverage across trading and associated control functions. Depending on the products and clients supported, participants may need to assess if coverage for longer operating hours, including weekends and 24/7 is required (and where it is required), and how this impacts trading functions, trading supervision, treasury, credit, IT and post-trade.

New technologies may increase automation across the FX lifecycle, reducing the need to staff certain functions, while creating opportunities to retrain and re-skill affected employees to support new workflows and digital controls. Technologies such as smart contracts may automate elements of allocation, confirmation and settlement workflows in defined use cases, although their use will depend on legal enforceability, operational design, exception handling and integration with existing systems.

Participants may also adopt new staff coverage models, including limited weekend coverage, supported by service level agreements with clients until volumes support broader coverage. Any new models will need to consider local employment laws/restrictions on what activities staff are permitted to perform in particular locations.

5.13 Systems

Trading and related systems may need to support longer operating hours, and reduced down-periods, depending on the strategy chosen. This may require participants to re-assess current processes reliant on systems being taken offline, such as end of day batches. The analysis suggests that today's downtimes remain a material constraint for some, while some newer digital market participants have been able to build using more modern technology, such as cloud-based, requiring fewer downtime periods.

As demonstrated in Figure 1, more time-sensitive or digitally enabled flows will require additional data attributes and fields to be captured at execution, rather than supplemented later into the trade flow as often happens today. The accuracy and availability of this data will be important in supporting shorter execution and settlement timeframes. In practice, materially higher levels of straight-through processing will be required, driven from trading. Static data management processes, (including when and how these are performed), will need to be revised to support these requirements, for example moving from post to pre-trade. Technologies such as AI may support automated solutions including data normalisation and exception identification.

Greater use of digital money in FX trading will also lead to the use of additional trading channels such as stablecoin exchanges, which, depending on the individual strategy may need connecting to existing trading systems. As the numbers of systems, execution venues and settlement channels increases, interoperability, common data standards and attributes will become more important for reducing friction and improving resiliency, although the wider benefits will be reliant on adoption.

5.14 Risks

Several risks were identified during the trading analysis.

Credit Risk: Participants will need to assess whether credit exposures can be measured over extended trading periods including weekends or 24/7 activity, and across new forms of digital money and settlement rails. Credit related data including limits and exposures will also need capturing and to be communicating to relevant stakeholders within shorter timeframes so that trading decisions can be made with confidence.

Existing controls such as KYC and sanctions screening will need to be performed earlier in the trade lifecycle, particularly relevant where checks are currently performed after execution, but in the future will need to be performed before or at the point of execution. Market participants will need to consider how credit risk 'transforms', as exposure from traditional nostros moves to exposure to digital money such as stablecoin reserves.

Market Risk: Market participants will need to assess the availability and depth of liquidity in new products, digital money and traditional products traded during extended periods including weekends and 24/7 as liquidity may be limited. This assessment will be important for less liquid currencies or more complex products such as options and NDFs, and for activity referencing benchmarks such as expiries and fixings.

Operating Risk:

Resiliency - Market participants will need to update operational resilience and contingency planning to account for new technologies, service providers, settlement rails and extended or continuous operating models. These models will complicate recovery planning, particularly where trading, funding, settlement, client servicing and exception management need to continue during and after a disruption.

AI - The role of AI in all the above is also of importance. The sophistication of these tools is still developing, and market participants will need to ensure that these tools are governed, validated and integrated safely into regulated trading and post-trade processes, including where human oversight, escalation and accountability remain required.

5.15 Venues and Market Infrastructures

Venues and market infrastructures, as participants in the future market structure are likely to be enablers of new activity. Depending on their role they will need to assess whether their operating hours, product coverage, data standards and funding models can support such activity as weekend trading and digital products. This may include developing or adopting common data attributes, such as ISO identifiers for digital assets.

QUESTION 3: Have you identified how your trading processes will need to be updated to support new activity? To consider changes to treasury and credit processes, people, systems and supporting infrastructures such as venues.

5.2 Post-Trade Analysis

5.21 Strategy

The post-trade strategy raises many of the same considerations identified in the trading analysis, Section 5.11. Market participants will need to assess whether their existing post-trade systems can support shorter settlement timeframes, longer operating hours, greater use of digital money and a more fragmented settlement ecosystem.

Where change is required, a cross-asset strategy supporting multiple asset classes is likely to provide a consistent data standard, workflow design and appropriate controls. A key challenge will be determining how to support new and legacy activity without increasing settlement, operational or liquidity risks and may require some current post-trade functions, such as static data capture to be performed earlier in the lifecycle to enable straight-through processing. It will also require greater automation of checks, controls and exception management so that faster settlement does not reduce the quality of risk management.

Technology, including AI and other automation tools may support this strategy by assisting in data normalisation, reconciliation and workflow routing across multiple settlement channels.

5.22 Settlement and Settlement Finality[10]

Settlement and settlement finality are expected to be among the main areas affected by shorter settlement timeframes, extended operating hours, increased T0 activity and settlement across fiat and digital forms of money. The required changes will include both operational processes and associated legal frameworks especially those determining when funds have been received with finality.

Today's wholesale FX settlement processes have evolved over many years to measure, manage and reduce settlement risk. A key consideration as new services and technologies are introduced will be to ensure that

[10] https://www.bis.org/publications/201302-guidelines-supervisory-guidance-managing-risks-associated-settlement-foreign-exchange-transactions.pdf

existing risk reduction benefits and processes are not weakened. This may be more prevalent when activity is outside established payment versus payment (PvP)[11] or netting arrangements, settles across multiple rails, or requires conversion between digital money and fiat.

Post-trade teams will need to assess how settlement routing, funding, balance monitoring, liquidity allocation and exception management operate across a broader set of settlement channels, assets and operating times.

Given the size of wholesale FX settlement flows, existing risk reduction processes including multilateral netting and PvP services will need to assess whether new timed settlement windows can support liquidity requirements, enabling balances to accrue. Technology is expected to play a significant role in addressing these new challenges, using automation and liquidity forecasting tools in the delivery of these objectives.

Further analysis is required on several settlement design questions, including:

- whether execution of the fiat trade should automatically instigate a process across wallet or nostro accounts as part of the settlement process (e.g. having the wallet address as the settlement instruction) – or whether is the settlement rail is determined as part of the trade execution
- whether wallet balances can be monitored and controlled using comparable processes to today's treasury processes of monitoring balances in nostros and sub-accounts – or whether different controls are required such as considering the wallet as another account
- how fiat, digital money and tokenised security settlement are synchronised across multiple platforms

Processes for managing settlement fails will also need enhancing. New considerations will include fails involving multiple settlement rails, linked or dependent settlement obligations, and the calculation of claims or compensation for intraday or T0 fails.

Finally, legal analysis will be required to assess how settlement finality differs across new settlement rails, including the legal treatment of finality, equivalence with fiat and clawback or recall rights.

5.23 Manual Processes

More time-sensitive or instant settlement models will require materially higher levels of straight-through processing. Instant execution and settlement cannot be supported reliably where data exceptions, incomplete settlement instructions or manual hand-offs interrupt the trade flow. As a result, market participants will need to reduce avoidable manual touchpoints and ensure that required data attributes are captured, validated and available earlier in the lifecycle.

Delivering this will be challenging given the size, scale and cross-border nature of the wholesale FX market. Technologies such as AI and other automation tools will support specific activities, including data normalisation, validation, exception identification, workflow routing and reconciliation.

[11] https://www.bis.org/publications/201302-guidelines-supervisory-guidance-managing-risks-associated-settlement-foreign-exchange-transactions.pdf

GFXD feedback suggests that the rapid development in AI functionality, accelerated technical builds and new functionality such as the identification and resolution of exceptions in compressed operating cycles is being developed and used in production today, and will be of benefit in the future.

New processes and technologies may also create opportunities to streamline today's post-trade processes by addressing the root causes of manual processes or in some cases removing the need for a process, such as post-trade confirmations, although exceptions will still need oversight.

The GFXD Operations Committee has produced papers[12] that may support this analysis by helping market participants identify common sources of exceptions and assess practical steps to reduce manual processes across the FX lifecycle.

5.24 People

As outlined already in Section 5.12, the staffing, supervision and skills considerations identified there are also relevant to post-trade functions, particularly where shorter settlement timeframes, extended operating hours and increased automation require faster exception escalation, control oversight and client support.

5.25 Data

More time-sensitive or digitally enabled settlement models will require market participants to obtain, process and share data across the front-to-back trade lifecycle within shorter, and in some cases near-real-time or instant, timeframes. This will include data relating to execution, settlement instructions, available balances, settlement status, credit capacity, treasury funding and exception management, across both internal functions and external stakeholders.

The availability, accuracy and timeliness of this data will be important not only for pricing and execution decisions with confidence, but also for funding, settlement, risk management and control processes. Many of these data-exchange processes remain manual or only partially automated today and as discussed in Section 4.2, have not yet been automated, standardised or adopted at scale across the wholesale FX ecosystem.

Existing processes will therefore need updating to support automated data exchange and reconciliation. Existing reliance on manual processes, such as post-trade calling nostro agents to confirm receipt of funds, and the subsequent communication of that information to credit and treasury teams, is unlikely to be scalable in more compressed timeframes.

5.26 Nostro Services

Where market participants seek to support 24/7, T0 or instant settlement activity, nostro providers may need to provide more timely data to account holders, including balances. Automated balance reporting and faster exception management processes will become increasingly important to support treasury forecasting, funding decisions and settlement control within compressed timeframes.

Shorter settlement cycles will also require changes to existing processes, including how intraday balances are reported, how value is attributed and how interest or charges are calculated. If these services are not available or are available only in limited currencies or time windows, this could constrain the scalability of more time-sensitive FX models.

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[12] https://www.gfma.org/foreign-exchange/publications-and-correspondence/

Market participants will also need to plan for differences in services provided by individual nostro providers, reflecting commercial, technical, jurisdictional or currency-specific constraints. Where existing nostro services do not support the required operating model, participants may need to assess alternative arrangements to support new client activity.

QUESTION 4: Have you identified the post trade changes required to support new trading activity, and can these be provided in a cost and risk efficient manner?

6. Priority 'no regret' Items

Drawing on the analysis across trading and post-trade flows, GFXD identified three priority capabilities that underpin a broad range of future wholesale FX market structures. These should be viewed as "no-regret" areas for further industry focus, as they will support safer and more scalable adoption of shorter settlement timeframes, longer operating hours, greater use of digital money and a more fragmented ecosystem.

1. Improve data exchange across the trade lifecycle.
   Market participants will need more timely, standardised and automated data exchange between functions and stakeholders, including trading, post-trade, credit, treasury and nostro providers. Real-time or near-real-time status updates on balances, settlement status and settlement finality will support faster and more accurate decision-making, including pricing, liquidity provision, treasury funding, credit checks and settlement control.

2. Reduce avoidable manual touchpoints and exception processing.
   More time-sensitive or instant settlement models will require materially higher levels of automation and straight-through processing. Existing manual processes and unresolved data exceptions will limit the ability to support compressed trading and settlement timeframes. Market participants therefore need to identify the root causes of exceptions, move required data capture and validation processes to earlier in the lifecycle, and invest in processes and technology that allow residual exceptions to be identified, prioritised and resolved within shorter timeframes.

3. Reduce system downtime where continuous or extended operation is required.
   Systems that rely on fixed offline periods, including batch-processing windows, will constrain 24/7, T0 or instant settlement activity. Market participants will need to assess which systems must operate for longer periods, how maintenance and end-of-day processes can be redesigned, and how dependencies on FMIs, central banks, nostro providers and other third parties will affect the operating model. These dependencies will create further limitations where downtime windows are not aligned across the wider transaction lifecycle.

7. Public Sector Considerations and Areas for Engagement

Public sector activity relating to payments, settlement and digital forms of money has increased in recent years, through both domestic initiatives and public-private or cross-border projects, including work referenced by the BIS Innovation Hub website[13]. Many central banks and public authorities are also assessing payments, settlement and market-infrastructure modernisation initiatives, including research, pilots or policy work relating to CBDC[14] and other digital forms of central bank or commercial bank money.

The BIS continues to support work aimed at improving the efficiency, safety and interoperability of cross-border payments[15]. For wholesale FX, focus through the cross-border payments interoperability and extension (PIE) taskforce is now focused on FX settlement risk and exploring the concept of a global value-date, supporting an environment for more PvP settlement.

The analysis in this paper identifies several areas where public sector engagement will help support safe and scalable private-sector development, particularly where market outcomes depend on legal certainty, supervisory consistency, access to central bank or payment infrastructure, or alignment across jurisdictions. Key areas for consideration include:

- Supervisory Divergence: Differences in regulatory or supervisory treatment across jurisdictions constrain the ability to provide services consistently in global markets such as wholesale FX. Greater consistency, or at least clearer supervisory expectations, will support safe and scalable cross-border activity. Relevant considerations include whether specific regions or currencies require different pre- or post-trade treatment, how tokens and digital money are recognised across jurisdictions, and how securities regulators assess the linkage between domestic DvP[16] settlement of tokenised securities and PvP or PvP-like settlement of the related FX leg

- Existing regulatory obligations: Further clarity will be required on how new settlement rails and digital money will be treated under existing regulatory frameworks, particularly where activity is cross-border or involves multiple types of regulated entity. Public authorities may also wish to consider how existing risk-management standards, including the PFMIs[17] and Global Code[18] apply to new technology providers

- Local employment laws and supervisory expectations: Extended or continuous operating models will require market participants to reassess staffing arrangements across jurisdictions. Relevant considerations include local employment law, supervisory expectations regarding remote access or working from home, booking-model restrictions, and the activities staff are permitted to perform when working from different locations or outside normal business hours

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[13] https://www.bis.org/about/bisih/projects.htm

[14] https://www.atlanticcouncil.org/cbdctracker/

[15] https://www.bis.org/cpmi/publ/brief13.htm

[16] https://www.ecb.europa.eu/services/glossary/html/act7d.en.html

[17] https://www.bis.org/committees/cpmi/pfmi/overview

[18] https://www.globalfxc.org/fx-global-code/

- Liquidity Management: Market participants will need to continue ensuring that settlement liquidity is available when required to support orderly market functioning and avoid liquidity bottlenecks. Public authorities and central banks may wish to assess whether existing payment-system tools, operating hours, queue-management arrangements or liquidity facilities remain appropriate for more time-sensitive or real-time settlement models

- Public sector data and metrics: Existing public sector metrics used to monitor FX settlement risk, including those produced by the BIS and local central banks, may need to evolve to reflect new forms of digital money, additional settlement rails and extended operating timeframes

8. Conclusion

The future wholesale FX market is likely to involve a mix of traditional and digital models, rather than a replacement of one by another. The adoption of digital solutions will depend on client demand, product economics, regulatory treatment, operational readiness and the commercial business case for individual market participants, and is likely to vary by product, currency and jurisdiction.

Safe and scalable implementation will require more timely and standardised data exchange, higher levels of automation, more resilient infrastructure and continued focus on reducing settlement risk. These capabilities are of particular importance where market participants are seeking to support shorter settlement timeframes, extended operating hours, greater use of digital money or activity across a more fragmented settlement ecosystem.

The analysis in this paper identifies practical challenges that market participants may face when seeking to adopt change at scale. New technologies, including AI and other automation tools, may support more cost- and risk-effective operating models, but their contribution will depend on implementation quality, governance, interoperability and the ability to operate safely in regulated wholesale markets.

The GFXD therefore encourages continued public-private sector engagement on the issues raised in this paper and welcomes the opportunity to contribute to further work on the safe and scalable evolution of the wholesale FX market.

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9. Annex 1: Trading Checklist (page 1 of 2)

Who	Theme	Problem Statement/Consideration	Issues to address
Market Participants	Strategy	Assess client demand for new services v cost to implement, run	1.Is there a strong business case. 2.How to leverage participant benefits of efficiency, scale, budget and new tech builds and solutions across divisions/functions. 3.Identify the most cost effective solutions to meet needs. 4.Independently assess which strategy (eg 24/7, instant settlement, T0) best supports participants objectives 5.Assess dependencies on infrastructure and service providers including differences in readiness and operating models.
		*Maximise strategy to optimise cross-asset operating model, efficiency, product, processes (eg if building a digital business, can this be scaled for FX and other asset classes?)	
		*Define which FX products (spot, fwd, NDF, options, swaps etc and fiat v digital underlier) and functions (eg custody, FXPB) are included in the new strategy	
		*Determine if it is better to build or buy solutions to meet needs	
		*Independently assess whether participant-specific, third-party, shared or interoperable solutions best meet the participant's needs	
		*Identify where standards are required (eg interoperability) versus scale being delivered via organic growth	
		*What are the regulatory and or supervisory divergences across borders and how do they impact processes	1.Regulatory, supervisory, legal, funding and liquidity frameworks vary by jurisdiction and may affect cross-border scalability. 2. Emerging-market and restricted currencies may require jurisdiction- or currency-specific treatment. Participants should assess the applicable legal treatment of relevant digital assets and forms of money.
Market Participants	People	Is there a requirement for extended support from core locations, including weekends	1.Identify what functions are required when and where, inc supervisory oversight. 2.Identify jurisdictions or operating locations where staffing coverage may be more challenging. 3.Identify where there are staffing opportunities and restrictions, inc local holidays. 4.How do staffing challenges/opportunities support or challenge the business case. 5.Identify which functions are more difficult or easier to staff eg. trading versus middle office. 6.Identify what new skills may be required.
		*Where to source talent that is happy to work extended hours, including weekends	
		*Identify which support functions are required	
		*Consider additional needs (eg planning to cover holidays, illness etc)	
		There is an opportunity to upskill staff for current and future roles (eg new digital functions)	
		Assess the ability to trade from home, including weekends	
		*Full trading desk coverage models may need creating inc F2B support and trading supervision	
		Restrictions on what can be booked in certain locations (eg place of business, reg nexus, tax issues)	
		*Determine who can do what from where	
		*Determine if this creates new constraints on where people can travel in free time	
Market Participants	Systems	Do in house systems need to support extended hours	1.Identify the systems and external dependencies requiring change to support extended hours across the lifecycle. 2.Assess constraints arising from legacy architecture, batch processes and existing maintenance windows.
		*At execution, there may be a need to capture new products and fields (eg T0 trade, time of settlement)	
		*Consider how existing value date and trading date concepts impact operations (eg when to switch from today to tomorrow)	
		*Ensure market data provisions are available and captured over weekends (eg to support finance, pnl reporting)	
		*How to perform trade monitoring and exception management in real-time or across extended operating hours	
		*How to consume and then process (real-time) settlement balances from nostros	
		*Determine which new data points are required to determine accurate credit provision (and how are these then processed)	
		System down periods may need to be shortened, including weekends (eg for maintenance, batches, infrastructure/IT roll outs, disaster recovery)	
		Determine if the settlement rail becomes a visible attribute at point of trade	1.Assess whether existing settlement-routing approaches can support additional rails. 2.Incorporate relevant cut-off times and rail availability into execution processes.
		*Determine who decides the settlement rail (eg trading/ops/algo/client), how this is recorded and included in metrics	
		*What cut-offs does each rail have and how to bring these into the trading process	
		*There is a need to manage settlement rail outages as part of trade execution decisions	
		*Determine the processes to manage associated static data (eg via onboarding)	
Market Participants	Risk	Does risk need managing over the weekend	1.Assess whether risk systems can operate within the required timeframes and identify any associated investment or business-case challenges.
		Determine if risk is managed per settlement rail or aggregated across rails	
		Determine how to manage exposure to the issuer of the token	
		Determine how to manage funding short falls over the weekend	
		Determine how to manage sanctions, AML/KYC	
		Determine if option events (eg barrier or expiries) benchmarks, and NDF fixings will be required over the weekend and how these will be calculated	1. Participants should assess whether new processes are required for weekend option expiries, benchmark calculations and NDF fixing sources.
		Determine the impacts on management or orders over the weekends, extended hours etc	

9. Annex 1 Trading Checklist (page 2 of 2)

Who	Theme	Problem Statement/Consideration	Issues to address
Market Participants	Credit	Establish processes for allocating credit (eg T0 etc)	1.Assess whether credit systems can operate within the required timeframes and identify any associated investment or business-case challenges.
		*If using multiple rails, is credit calculated per rail, aggregated or other	
		*Is credit assigned pre-trade or in real-time	
		*Consider impacts if credit is re-assigned mid trade	
Market Participants	Liquidity access	Trading will need to establish and have access to pools of liquidity providers	1.Assess how venue adoption timelines may affect liquidity and scalability. 2.Adapt relevant processes for new operating timeframes. 3.Consider differences in product and service availability across venues.
		*This could be across new or established providers	
		*This could be across multiple assets inc fiat and digital, FX and other products	
		*Determine other liquidity services offered by venues	
		*Determine how prefunding works and when it is required	
		Fragmented liquidity	
		*Determine the new liquidity requirements for intraday/real-time trading	
		Creation and management of curves over new trading timeframes	
		*Assess whether trading requires intraday, real-time or hourly curves	
		Need real-time transparency to settlement flows to facilitate credit provision and trading balances, from internal and external sources	1.Identify the data feeds requiring more timely or automated information. 2.Assess the impact of differing readiness levels among internal and external stakeholders, including nostro providers. 3.Determine how settlement information should inform execution decisions.
Market Participants	Liquidity management	Ability to quickly cycle liquidity	1. Funding will need to reprioritise cash flows to ensure there is a sufficient balance to facilitate trading without causing a gridlock.
		*Need to manage multiple assets across multiple channels (traditional and digital)	
		*Determine if prefund or use other means to ensure liquidity is available for trading and or settlement	
		*Determine the processes required to assign liquidity for specific activity (eg contingent payments) without impacting other business lines (trading and settlement)	
Market Participants	Nostro management	Impacts if banks share nostros across business lines and one line of business exceeds credit lines	1.The ability to make markets with confidence may be challenged if there are internal competing pressures from other business lines for the available balance.
		*Determine if each line of business self funds or can individual nostros be used	
		*Impacts on costs of capital if excess funding required	
		*Impacts should FX lifecycle shrink but other lines of business using same nostro retain existing settlement cycles	
Market Participants	Market Operating Hours	Assess whether existing market-operating-hours definitions remain appropriate for extended or weekend trading	1. Identify processes that rely on existing market-operating-hours definitions. 2. Assess whether relevant contractual or industry definitions require clarification or amendment.
Market Participants	Custody	If assets are held digitally, does the FX need to be digital as well	1.What custody flows change and how does this impact the wider market.
Market Participants	Operating hours	Venue operating hours and changes to accommodate new businesses	1.Assess whether venues and liquidity providers can support the intended operating model. 2.Consider whether differing adoption approaches across venues or jurisdictions could increase fragmentation. 3.Assess whether activity may concentrate on venues with established digital capabilities, and the resulting liquidity or concentration risks.
		*Impacts on any existing regional access models	
Market Participants	Products	Venues offer new products or services, inc T0 swaps, intraday swaps, forwards settling on weekends etc	
		Determine the venue tech strategy (eg current tech, DLT, digital assets etc)	
Market Participants	Credit	Determine if the venues will assign real-time credit	
		Assess whether venue operating windows support the participant's intended operating model	
Market Participants	Employment laws	Assess how applicable employment laws affect extended-hours and weekend working arrangements	1.Assess the resulting implications for staffing capacity and regional coverage.
		*Assess applicable supervisory requirements for remote trading, sales activities and managerial oversight	
		Assess jurisdiction-specific treatment of digital products and compare permitted activity with client demand.	1.Consider whether jurisdictional requirements restrict trading between fiat and digital forms, or between local and offshore markets.
Market Participants	Funding tools	Assess the availability and suitability of central-bank or payment-system tools for managing payment queues and liquidity constraints	1.Assess applicable RTGS liquidity requirements and available liquidity-optimisation tools.
		*Assess the processes for converting CBDC into fiat, including whether conversion is provided by the relevant central bank or undertaken by market participants.	
Trading venues / market infrastructures	Operating Hours	Existing infrastructure providers, FMIs etc may need to update their technologies to enable trades to be registered over extended periods and weekends	1.Assess the potential impact on trading practices and post-trade dependencies where participants have differing capabilities or operating windows.

9. Annex 2 Post-Trade Checklist (page 1 of 2)

Who	Theme	Problem Statement/Consideration	Issues to address
Market Participants	Strategy	Is it better to build or buy solutions to meet needs	1.Identify opportunities to use common capabilities across internal divisions and functions. 2.Assess the business case for the participant. 3.Evaluate available solutions against cost, risk, scalability and client needs. 4.Independently assess which operating model best supports the participant's objectives. 5.Consider fragmentation and interoperability risks. 6.Assess the implications of differing operating models and readiness levels among infrastructure and service providers.
		*Independently assess whether participant-specific, third-party, shared or interoperable solutions best meet the participant's needs	1.Consider the relative scalability, interoperability, speed of implementation and governance implications of the available approaches.
		*What are the regulatory and or supervisory divergences across borders and how do they impact processes	1.Regulatory, supervisory, legal, funding and liquidity frameworks vary by jurisdiction and may affect cross-border scalability. 2.Emerging-market and restricted currencies may require jurisdiction- or currency-specific treatment. Participants should assess the applicable legal treatment of relevant digital assets and forms of money.
Market Participants	Settlement	Promotion of PvP	1.How to capture and process settlement preferences across the market for different products (ie net vs gross, batch settlement etc). 2.Identify ways of optimizing settlement (ie multilateral netting and timed settlement across fiat/digital). 3.Process challenges caused by differences in cutoffs between participants / asset (ie internal vs external vs nostros). 4.Assess how post-trade amendments, discrepancies and settlement breaks can be identified and resolved within shorter timeframes. 5.Assess how required funding can be identified, mobilised and confirmed before settlement. 6.Assess whether trades can be confirmed and economic discrepancies resolved before settlement. 7.Managing processes across multiple PvP solutions may create additional complexity where interoperability is limited.
		*Assess how settlement should operate across established and new PvP arrangements	1.Ensure new models preserve appropriate settlement-risk protections. 2.Assess how new solutions could operate alongside established PvP arrangements and whether they meet the participant's commercial and risk requirements.
		Managing flows effectively across multiple settlement rails (legacy and new)	1.Assess how settlement-rail choice affects liquidity, costs, controls and operational handling. 2.Determine how flows and settlement instructions should be routed. 3.Identify any applicable reporting and governance requirements. 4. Assess how failures and dependencies across linked transactions should be managed.
		*How to manage settlement flows across FIAT and digital products *How to revise processes to accommodate different operating practices for digital and FIAT rails	1.Fiat and digital settlement models may operate with different liquidity pools, operating hours (including traditional settlement holidays), controls, legal frameworks and funding requirements (eg how to access wallets, funding sweeps for tokens and stablecoins), creating complexity across the settlement lifecycle.
		*What are the regulatory and or supervisory divergences across borders and how do they impact processes	1.Regulatory, supervisory, legal, funding and liquidity frameworks vary by jurisdiction and may affect cross-border scalability. 2.Emerging-market and restricted currencies may require jurisdiction- or currency-specific treatment. Participants should assess the applicable legal treatment of relevant digital assets and forms of money.
		*How to measure settlement risk in line with today's waterfall, central banks surveys etc	1.Assess whether existing industry and public-sector reporting measures adequately capture activity across established and emerging settlement methods.
		T1	1.As securities markets move to T1—and potentially T0—assess whether FX settlement timing, funding availability and operational processes sufficiently mitigate the risk of failed trades, funding gaps or trapped liquidity.
		*Need to connect securities and FX settlement (DvP v PvP)	1.Assess how securities and FX settlement can be coordinated to maximise settlement-risk reduction, including the interaction between DvP and PvP arrangements.
		Assess legal settlement finality for each relevant rail and jurisdiction	1.Settlement-finality arrangements may differ across rails and jurisdictions. Assess legal certainty, equivalence, clawback and recall provisions, and any resulting risk-management requirements.
Market Participants	Manual Processes	Identify where actual manual processes occur in post-trade	1.Identify which functions are most affected. As settlement timelines shorten, manual interventions become a bigger source of delay, operational risk and failed settlement. 2.Determine what can be solved through tech vs human. 3.How to scale in line with increases in manual exceptions. 4.Identify trade-booking errors and data-quality issues that result in manual processing. 5.Identify manual processes which can be consolidated to speed up processing without increasing risk.
		*What tech exists to address these eg AI *Do these need a networked solution, or can these be addressed in	1.Ability to identify automated opportunities to address manual post-trade processes.
		*Do more fragmented solutions create new and more manual processes	1.Increased operational risk from multiple settlement rails, platforms and proprietary solutions, especially if these introduce new processes, controls etc.
		*Are new issues created for out of region clients trading new products or shortened timeframes	1.Assess whether new solutions create additional manual processing or accessibility challenges for clients and jurisdictions with differing levels of readiness.

9. Annex 2: Post-Trade Checklist (page 2 of 2)

Who	Theme	Problem Statement/Consideration	Issues to address
Market Participants	People	Need extended support from core locations, including weekends	1.Identify what functions are required when and where, inc supervisory oversight - leverage new client SLA if it is more effective not to provide certain functions over the weekend. (Does a T0 / instant-settlement market require a move away from the traditional 5-day operating model?) 2.Identify jurisdictions or operating locations where staffing coverage may be more challenging. 3.Identify where there are staffing opportunities and restrictions, inc local holidays. 4.How do staffing challenges/opportunities support or challenge the business case. 5.Identify which functions are more difficult or easier to staff eg. trading versus middle office. 6.Identify what new skills may be required.
		*Where to access talent that is happy to work extended hours, including weekends	1.Existing staffing models may not support sustained weekend and extended-hours coverage.
		*What support functions are required	1.It is unclear which functions need to operate in line with extended trading and settlement hours. May be inefficient to perform manually if volumes are low.
		*Need to accommodate holidays, illness etc	1.Extended-hour support creates additional resilience and succession risks, potential for capacity scale costs (increased FTE on rotas, to cover absence).
Market Participants	Technology	Need to reduce downtime for systems, batches etc	1.Identify what systems and changes are required to support extended hours across the full lifecycle, include in considerations external dependencies. 2.Assess constraints arising from legacy architecture, longer batch processes and existing maintenance windows. 3.How to deliver when extended or near-24/7 settlement leaves less room for maintenance, batch processing and recovery windows.
		Need to re-design post-trade systems to capture information from multiple new and existing sources	1.Needs clear criteria for when a new model is genuinely useful, safe and scalable, rather than only technically possible.
Market Participants	Risk Management	Update KPI and risk metrics to capture new assets, channels and shortened timeframes	1.Determine how to value risk across digital and fiat. 2.Will monitoring need to happen continuously and real-time. 3.Address Margin and Valuation calculations and reporting. 4.Existing KPIs, risk metrics and management reporting may not fully capture the risks, liquidity requirements and operational challenges associated with new settlement models, digital assets and shortened settlement timeframes.
		Do reduced timeframes and new staffing requirements drive change in existing processes	1.Assess whether processes designed for T2 or T1 remain effective in a T0 or real-time environment, while maintaining appropriate controls.
		*Revisit the requirement to confirm trades executed electronically, on venue etc	1.Participants should independently assess whether current confirmation processes remain effective for electronically executed trades settling in near real-time, including whether relevant practices from other asset classes could be applied.
		*Determine how to manage sanctions, AML/KYC	1.Assess whether risk and financial-crime-control systems can operate within the required timeframes. 2.Consider the implications of performing relevant decisions more quickly or during weekends.
Market Participants	Communications	Need to establish real-time data and communication flows to facilitate decision making across lifecycle F2B	1.Risk in difference in operating hours/coverage between participants to the trade and infrastructure providers related to the trade (eg CCP). 2.T0, instant settlement and multiple settlement rails may require real-time visibility of liquidity, settlement status, funding, credit, controls and exceptions across the entire trade lifecycle. Decisions that are currently sequential may need to happen simultaneously.
Market Participants	Static data	Need to identify and maintain the new static data which will be needed to route trading pathways (from trading to post-trade, inc credit etc)	1.Proliferation of new fields to source and maintain. 2.Assess gaps in data standardisation across relevant systems and participants.
Market Participants	Resiliency	Consider stress testing of multiple settlement rails in resiliency planning including how to manage outages, default etc	1.Ensure new providers, technologies etc meet required and trusted standards of operation.
Market Participants	Account reconciliations	Assess whether reconciliation, settlement-finality and account-holder reporting processes need to be accelerated or automated, potentially in real-time	1.Assess uplift to meet potentially shortened reporting timelines & shifting requirements. 2.How to define settlement finality. 3.Can existing FX templates be leveraged for digital assets. 4.How to handle disruption events. 5.Settlement finality becomes more important as settlement accelerates. Delays in reconciliation, reporting and balance updates may reduce confidence in liquidity positions and increase operational risk.
Market Participants	Reporting	Assess whether the new operating environment creates additional regulatory or reporting requirements	1.Assess whether new settlement rails, digital assets, tokenised deposits or shorter settlement cycles create additional regulatory, reporting, record-keeping or audit obligations in each relevant jurisdiction.
Nostro or other service providers	Balance Visibility	How to perform trade monitoring and exception management	1.Assess Nostro capability to support faster settlement times for longer operating hours (eg. timing of statements, dynamic reconciliations). 2.Where balance reporting is delayed or fragmented, participants should assess whether it provides sufficient visibility for T0, instant settlement or multiple settlement rails. Digital settlement models may also require appropriate ledger-balance visibility.
		How to see and get access to real-time settlement balances at nostros	