GFMA's Global FX Division

Accelerated FX Settlement

- **Moving to T0 and continuous settlement**

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Background on the Global Foreign Exchange Division

The Global Financial Markets Association's (GFMA) 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 a significant portion of the FX inter-dealer market. 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 Mellon, Barclays, BNP Paribas, Citi, Credit Agricole, Credit Suisse, 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

Executive Summary

The wholesale FX market is now at an inflection point as participants are now faced with more options on how to execute and when to settle their FX transactions

This is being driven by:

- Technology (e.g. digital assets/digital stores of value)
- A desire to improve operational efficiencies and reduce Settlement Risk
- Public sector developments (e.g. via the CPMI cross-border payments project)

These developments could facilitate i) an increase in T0 volumes and ii) more choice on the timing of when a wholesale FX transaction is settled. Successful adoption is dependent on:

- Improving i) efficiency and ii) effective cost/risk management
- The network effect of widespread adoption
- An ability to simultaneously perform both legacy and new processes
- Ensuring staff have the right skills in the right locations to perform the required functions

Yet, at this time it is not clear if there is a market desire – or ability – to move at scale, in a networked manner to either. In part this is due to the significant nature of the changes required and the considerable cost and coordination involved

However, to assist market participants in their analysis we have identified a series of recommendations for consideration if the industry is to move at scale. These are:

<u>Transition</u>

Recommendation 1: There is an opportunity for market participants to produce best practices to enable a smooth transition at scale from current to future states

Recommendation 2: Market participants adopt new wholesale trading and settlement processes on a low volume basis, leveraging transactions with high levels of pre and post trade automation

Recommendation 3: Market participants should consider key internal and external transition considerations in their planning, including the ability for the industry to adopt harmonised change at scale

<u>Impact on other asset-classes</u>

Recommendation 4: Lessons learnt from the U.S. security migration to T+1 will be of value in determining the wider impacts of shortening of settlement cycles on wholesale FX

<u>Operational efficiencies</u>

Recommendation 5: Market participants identify impacted internal divisions and partner with them to define timely and effective communication and data sharing processes, including timelines on settlement and liquidity management

Recommendation 6: Market participants assess the impacts and dependencies of performing both today's and any future pre and post trade processes in a reduced timeframe, leveraging their experience of the transition to T+1 securities settlement in the U.S.

Staffing models, skillset requirements

Recommendation 7: Market participants determine their strategic skill set requirements, inclusive of any new sources of individuals with those skills

Supervisory and regulatory developments

Recommendation 8: FX regulations and supervisory guidance should be harmonised across both i) jurisdictions, and ii) market participants and be future proofed, promoting 'same activity, same risk, same regulatory outcome'

Recommendation 9: Market participants and the public sector should engage to discuss the concept of a global Settlement Date

Introduction

Since the publication of the second GFXD Market Architecture Group (MAG) paper in March 2020 titled '*Expanding Payment versus Payment (PvP) opportunities*'[2] there have been many developments across the FX industry which have contributed to the evolution of market across pre and post trade activities. Whilst some of these developments have not yet reached broad market adoption, e.g. digital assets/digital stores of value, the ongoing pace of evolution suggests that we are at an inflection point – a time where new processes and new market participants could create opportunities to change how the wholesale FX market operates.

Yet the core challenges remain the same – how to operate a global market in an effective and efficient manner, meeting the needs of its participants whilst reducing the levels of FX Settlement Risk, i.e. efficiently settling as many wholesale FX transactions on a Payment versus Payment (PvP) basis as possible.

This third paper in the MAG series, analysing developments within the settlement of wholesale FX transactions, is focused on discussing the implications of any changes to today's processes which could alter the flow of (settlement) liquidity on Settlement Date.

Specifically, this paper will consider (for non-CLS[3] transactions):

- An increase in the volumes of wholesale FX transactions executed and settled on the same day (T0) (e.g. traditional versus digital currencies)

- The evolution of settlement processes/technologies allowing for more 'choice on when' (e.g. continuous or batched settlement) the settlement funds actually move during Settlement Date on a PvP (or Delivery versus Payment, DvP) basis

This evolution is not only being driven by market (commercial) forces – it is being supported by the public sector, most notably through the Group of 20 (G20) Leader sponsorship of the Committee on Payments and Market Infrastructures (CPMIs) cross border payments programme[4] which is focused on '*Enhancing cross-border payments' speed and transparency, while increasing access to cross-border payment services and reducing their costs'*.

The programme consists of 19 building blocks which collectively will look to deliver the goals of the programme across wholesale, retail, and remittances – including wholesale FX. The programme, with targets set for 2027, has now re-focused attention on three interconnected areas:

- Payment system interoperability and extension
- Legal, regulatory, and supervisory frameworks
- Cross-border data exchange and message standards

Whilst there are elements of 'doing today's processes better' to deliver the goals in each of these three areas, there is also a significant element of leveraging evolving technologies, such as central bank digital currencies (CBDC) and associated technologies such as distributed ledger technology (DLT).

These technologies also generate practical questions which are yet to be fully considered, not least the issue of increased fragmentation (e.g. we believe it is unlikely that a single provider will be adopted by the whole market) which could, for example, increase Operational Risk and slow the pace of adoption; a challenge in a market the size of the wholesale FX where the number of market participants is vast, and the technical sophistication is varied.

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[2] https://www.gfma.org/wp-content/uploads/2020/03/expanding-pvp-opportunities-march-2020.pdf

[3] https://www.cls-group.com/

[4] https://www.bis.org/cpmi/cross_border.htm?m=2719

Recent analysis from the Bank of International Settlements (BIS)[5] reported that the average turnover in April 2022 for the global wholesale FX market was $7.5 trillion a day – the largest market in the world. Subsequently, the BIS reported that Settlement Risk continues to grow, stating that *'$2.2 trillion of daily FX turnover was subject to settlement risk, up from an estimated $1.9 trillion in April 2019'*[6]. Therefore any evolution needs to consider the size and composition of the wholesale FX market and the benefits of the 'network effect' to adoption, scale, efficiency, and cost.

Sovereign entities, central banks and other government-sponsored entities rely on the 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

Market participants are faced with an increasing choice of how to execute and settle wholesale FX transactions. We believe that this increase in choice is being influenced by three factors, namely:

i. Technology
ii. A desire to increase operational efficiencies
iii. Supervisory and regulatory developments

In order to consider how each of these three factors could influence the wholesale FX market, the MAG in writing this paper, has identified the following key assumptions/requirements for success, some of which are already under consideration by other groups, such as the CPMI. These are:

- Further alignment of central bank RTGS operating hours to allow for more PvP opportunities
- Development of an alternative choice of Settlement Date convention, a standardised global 24-hour period, for example utilising coordinated universal time (UTC)
- Changes to T0 or to today's flow of settlement liquidity are expected to be low in volume and agreed on a bilateral basis between counterparties. For instance this could be initially limited to time-sensitive payments, and not via a 'big-bang' industry-wide change
- A global standard (s) to promote interoperability and integration of technologies

This paper will further explore the above three factors – i) technology, ii) a desire to increase operational efficiencies, and iii) supervisory and regulatory developments - and provide the reader with a series of points for use in their own education and analysis.

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

1. Technology

The wholesale FX market has evolved over the last 30 years to be highly automated with considerable interactions between a significant number of technologies, service providers and infrastructures. Each of these will have multiple touchpoints within a single institution and will have established processes to ensure that controls and deadlines can be met. Not only that, but new technologies (such as tokenisation[7] and DLT) are evolving and being assessed for suitability in proof of concepts, enabling wider use of new digital assets or digital stores of value but also causing challenges in how these new technologies interact with existing wholesale FX payment rails.

[5] https://www.bis.org/statistics/rpfx22_fx.htm
[6] https://www.bis.org/publ/qtrpdf/r_qt2212.pdf
[7] https://www.gfma.org/policies-resources/gfma-publishes-report-on-impact-of-dlt-in-global-capital-markets/

Transition

Recommendation 1: There is an opportunity for market participants to produce best practices to enable a smooth transition at scale from current to future states

Recommendation 2: Market participants adopt new wholesale trading and settlement processes on a low volume basis, leveraging transactions with high levels of pre and post trade automation

Recommendation 3: Market participants should consider key internal and external transition considerations in their planning, including the ability for the industry to adopt harmonised change at scale

Any changes to existing processes will require careful consideration, planning, coordination, and budgeting before rolling out into production – not least considering the impacts of any changes to the wider FX ecosystem and ensuring settlement on a PvP basis to reduce Settlement Risk. The transition to and the long term adoption of the future state is therefore both complicated and ultimately reliant on a wide networked adoption, and there is an opportunity for the industry to develop best practices to enable a smooth and efficient transition.

However, given the above MAG assumption that any evolution will be staggered and adopted deliberately on a bilateral, exploratory basis (between counterparties), then we believe that the following will need to be considered for the settlement of a single T0 transaction:

- Bilaterally agree the PvP mechanism which will be used to settle the transaction with Settlement Finality
- Bilaterally agree the timing of the settlement during Settlement Date. Batch settlement periods will likely be the preferred initial approach rather than continuous settlement
- Partner with the Nostro bank to ensure that the account has been funded and that funds have been ring-fenced/segregated to enable the settlement of the single transaction
- Partner with the Nostro bank to ensure that real-time notification of receipt of funds occurs on Settlement Date

Whilst this approach for one single transaction could be manually accommodated, in order to gain any efficiency and scale, technological changes will be required. Market participants will need to plan, assess, and then adopt at scale, multiple new processes/systems/operating practices which can be expected to be performed in conjunction with existing practices.

Such changes can be split into External (i.e., ecosystem wide) versus Internal (i.e., within an organisation) types and include:

External Transition Considerations

- Updates to industry messaging systems/providers to share new ISO codes and timed payment information
- Nostro/Correspondent banks to leverage and ensure their account holders can benefit from the extended central bank RTGS operating hours to allow for longer settlement cycles
- Custodians to leverage extended central bank RTGS operating hours
- Adoption of new technologies to enable PvP between digital assets/digital stores of value and traditional currencies

Internal Transition Considerations

- Identify payments with specific timed requirements, capturing and processing this information in the transaction file
- Ability to consume and process new ISO codes, which for digital assets may not be in today's three-character format (e.g., ISO 4217[8] v ISO 24165[9])
- Ability to consume and process real-time information from Nostro/Correspondent banks
- Ability to consume and process real-time information from new and/or multiple PvP/DvP technologies or providers
- Ability to link to new technologies to enable interoperable PvP/DvP of transactions of digital assets/digital stores of value and traditional currencies
- Decision on whether to update existing internal systems to accommodate new flows, or to bifurcate the flow and have two separate flows for new versus old, noting operational efficiency implications

It is difficult to predict which technologies will be adopted at scale by the market. As such, it is critical to ensure that there are degrees of interoperability between new technologies, new market participants and traditional currency based PvP systems.

Interoperability will enable market participants to have the flexibility to experiment with their approaches to meet their clients' needs, rather than being restricted by the functionality offered at a point in time. As previously noted, the global wholesale FX market is vast in scale and it is unlikely there will be adoption of a single technology or PvP system across the whole market (i.e. we believe there will be more fragmentation), especially as the digital market and associated regulations mature.

Harmonisation of standards will help create opportunities for technical interoperability – for example the use of ISO codes referenced above, as well as wider adoption of ISO 20022[10] messaging. Development and adoption of market wide standards/frameworks, such as the ISDA FX definitions[11] and ISDA digital asset definitions[12] will also promote consistency between new PvP technologies, especially as traditional currency and digital asset transactions become more commonplace over time.

Impact on other asset-classes

Recommendation 4: Lessons learnt from the U.S. security migration to T+1 will be of value in determining the wider impacts of shortening of settlement cycles on wholesale FX

Whilst the previous paragraphs have focused on the technical interoperability of PvP/DvP technologies, for both traditional currency and digital assets/digital stores of value, it is important to also remember that FX is executed to fund activity in other asset classes, such as the purchase and sale of foreign securities.

Given the preference to reduce Settlement Risk, a goal of any new technology could be to enable the simultaneous settlement of the asset and associated wholesale FX transaction, noting that depending on client preferences and regulatory oversight, market participants will very likely have to support both legacy and new technologies and their associated processes.

For example, if a client executes a EURJPY wholesale FX transaction to fund the purchase of a JPY security, there is a benefit to linking the multiple systems involved in the settlement of the JPY security and EURJPY wholesale FX transaction. An alternative approach could be to enable multiple assets to be traded/settled on the same system so that there can be simultaneous settlement, with Finality of the security and the related FX transaction.

[8] https://www.iso.org/iso-4217-currency-codes.html
[9] https://www.iso.org/standard/80601.html
[10] https://www.iso20022.org/catalogue-messages/additional-content-messages/iso-20022-real-time-payments-group-rtpg
[11] https://www.isda.org/
[12] https://www.isda.org/book/isda-digital-asset-derivatives-definitions/

Some of the benefits of linking the asset and associated wholesale FX transaction could include re-assessing the requirement to pre-fund vs 'just-in-time' liquidity management to effect settlement, which could have positive impacts on liquidity and capital costs. Tokenisation may yield benefits when linking multiple asset classes, however this would require further analysis.

Additionally, work is underway to shorten security settlement cycles (e.g. US move to T+1[13]) or to assess the implications of moving to shortened settlement cycles (e.g. UK[14], EU[15] move to T+1). However, due to the operating practises of each asset class, and geographical location of its participants, there will be multiple challenges to address.

We recommend that the lessons learnt from the security settlement moves to T+1 be subject to further analysis and used as FX market participants consider the growth in volumes of wholesale FX transactions settling on a T0 basis.

2. Operational Efficiencies

Recommendation 5: Market participants identify impacted internal divisions and partner with them to define timely and effective communication and data sharing processes, including timelines on settlement and liquidity management

Recommendation 6: Market participants assess the impacts and dependencies of performing both today's and any future pre and post trade processes in a reduced timeframe, leveraging their experience of the transition to T+1 securities settlement in the U.S.

Changes to today's established operating practices can be expected to occur across the full FX Value Chain, including associated functions such as treasury management. These changes will include the introduction of new processes, not least driven by new technologies, but efficiency is key, and it may be that strategic decisions are influenced by the long-term desire to avoid running dual processes (which will likely incur more cost and Operational Risk). Such changes to today's established operating practices are the subject of this section.

Pre and post trade

Previously, in our March 2020 paper titled '*Expanding Payment versus Payment (PvP) opportunities*' we identified, in Table 1 below, those post trade processes which we thought would be impacted by an extension to RTGS operating hours and provided further detailed impact analysis on each process.

[13] https://www.sec.gov/news/press-release/2023-29 and https://www.sifma.org/resources/general/t1-playbook/
[14] https://www.gov.uk/government/publications/accelerated-settlement-taskforce
[15] https://www.afme.eu/publications/reports/details/t1-settlement-in-europe--potential-benefits-and--challenges

Table 1: Generic FX post trade processes

When	What	Impacted by RTGS extension?
Value Date (VD)	Non- PvP transaction matching and confirmations	Likely
VD	Non- PvP net and gross settlements	Likely
VD	Intra-day controls and reconciliations	Likely
VD	Intra-day liquidity management	Likely
VD	Final checks prior to cut-off	Likely
VD/VD + 1	Regulatory reporting	Likely
VD	EOD batch processes: ledgers and statements	Likely

Following our recent analysis we continue to support that these post trade (including settlement) processes will be impacted by either changes to T0 volumes or by changes to today's flow of settlement liquidity. We recommend that market participants perform their own detailed analysis to assess the scale and impact of such changes.

We also note that in addition to those processes identified in Table 1, new processes may also be required including those impacting associated functions such as Risk or Finance divisions. Other new opportunities/requirements could be created, such as managing intraday interest on balances or monitoring credit limits across multiple settlement systems/rails.

New technologies such as DLT could also improve visibility of cash flows and potentially improve the way credit lines are determined. Collectively, these opportunities could improve the ways in which market participants manage Settlement Risk from initiation to Settlement Finality, in line with BCBS' Supervisory Guidance on Settlement Risk (2013)[16].

In developing our previous 2020 analysis, we have also identified a series of additional practical considerations for market participants. Most notably, these concern either the ability to:

i. Perform these post trade functions in a reduced timeframe
ii. Leverage new technological solutions to enable more automation

However, both require better communication between those divisions involved in the performance of these functions across the FX Value Chain.

Communication

In order to perform functions in a shorter period of time, there needs to be quick, clear and full sharing of information between multiple divisions such as Trading, Operations, Credit and Treasury.

For example, at execution it may be necessary to record the actual time at which the transaction will settle on a PvP basis. This information will then need to be passed to:

i. Operations teams to ensure that the transaction is processed (e.g. allocated, confirmed, instructed for settlement) in good time for settlement

ii. The Treasury teams to ensure that funds are available at the Nostro Account to enable the settlement

[16] https://www.bis.org/publ/bcbs241.htm

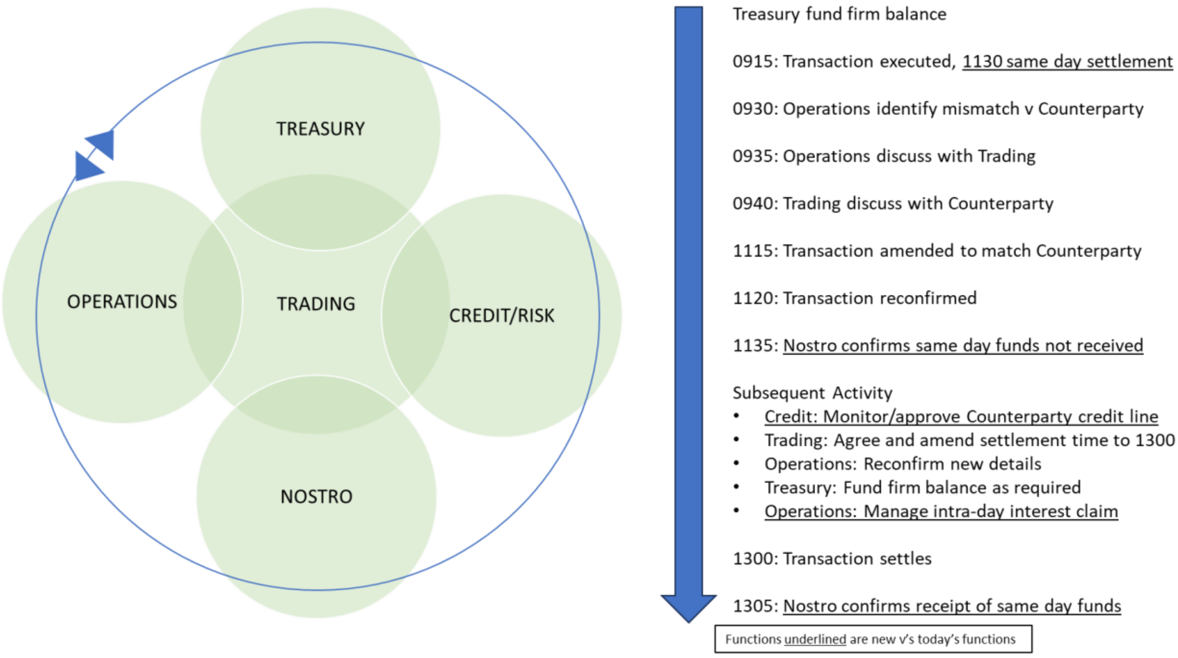
Operations teams can also be expected to subsequently perform a reconciliation on the status of the receipt of funds at the Nostro, and then to communicate this information internally to ensure that other areas, such as Credit, are able to reflect the receipt or non-receipt on a real-time basis.

Currently this process typically takes place on the day after settlement and any late receipts will usually attract an interest compensation claim. Both the Nostro Account reconciliation process and interest compensation claims process will require re-engineering to reflect the shortened settlement cycle. The Nostro bank will be required to provide information to ensure that Nostro Account reconciliation occurs on Settlement Date and as close to settlement as possible.

Significantly, in addition to the re-engineered interest compensation claims process, market participants will also need to consider additional new processes should funds not be received when expected, such as a financial penalty or the re-pricing of a new settlement time. All of this will require effective and quick communication between those divisions involved across the FX Value Chain including credit and treasury.

A big challenge to overcome will be the ability to perform these new functions in conjunction with today's existing processes, as there may be a reduced desire to support multiple trading and settlement models (with very different timeframes and requirements) as standalone units.

Figure 1: Circular flow of information - example T0 FX transaction



Note: information on the status of a payment will need to be shared between multiple areas to ensure that Trading are able to make T0 prices. Additional considerations for T0 include the reduced intra-day timeline to communicate the transaction or payment status, but also the potential requirement for further bilateral communications, i.e. between Trading and Operations to rectify any booking errors, or to rebook a transaction should the counterparty pay late. New technologies, such as DLT could provide a solution to these considerations.

Processes

Today's functions already have well established processes, deadlines, and appropriate staffing to ensure that they are performed in a well-controlled fashion. Unless more efficient processes/new technical solutions are available to automate and effect settlement as near to execution as possible, the chances of wide-spread adoption to create the desired network benefits are greatly reduced. This is especially important when considering FX transactions which involve multiple third parties, such as trading venues, custodians, prime brokers or clearing houses, all of which will need to be in sync to ensure that the agreed terms of the FX transaction can be met and the transaction settled on-time.

It could be that the cost implications outweigh the benefits especially when considering the additional resource and changes to existing technologies to support such new requirements.

Today's basic FX transaction functions will need to be performed very differently in the future, especially if settlement is to be performed at or close to execution - confirmation, for example will need to be performed at or as close to execution as possible. Whilst this is achievable today (e.g. funding trades can be executed and settled on a T0 basis), many clients are still not using automated confirmation methods and even if they are then any transaction booking errors identified during the confirmation process will need rectifying before the settlement process can begin.

It may be that initially it is only those FX transactions that have high levels of automated execution/confirmation/settlement processes which are suitable for either T0 or for timed settlement. Market participants can also take risk based decisions to help drive automation – for example, do transactions which are executed and matched electronically by both sides require additional confirmation? Technology could play an important role here through the creation of immutable 'golden sources' of transactions as these too will enable the reduction of the time taken to perform any post trade processes.

The settlement process itself is also one which will require further analysis, especially when introducing a timed payment element. As CPMI note in their cross-border payment programme, there are many frictions which currently influence a cross-border payment, further complicated when one of the currencies settling is an emerging/developing market currency. Examples which should be considered when deciding on whether to execute a transaction with a timed payment element include:

- The ability to perform any AML checks
- Central bank/Nostro bank settlement operating hours
- Local currency restrictions
- The ability to access/fund liquidity, and
- Whether the transaction is considered to be a 'large payment' and if the associated additional internal processes and controls can be performed in time

Liquidity and Funding

A key component in determining the feasibility of either increasing the volumes of T0 trading or enabling more choice on when funds move on Settlement Date on a PvP basis (thus reducing Settlement Risk) is the ability to ensure funds are available to effect trading and subsequent settlement.

Whilst there are many components to ensuring that the provision of liquidity for trading and settlement is commercially viable, the ability to ensure that funding is available at the right time in the right currency is significant. An additional complication to consider is that funds for different 'types' of settlements tend to be co-mingled on the Nostro Account, rather than being specifically assigned or allocated. Any late receipt can therefore have a knock on impact on the ability to make a timed payment, and the management of this in a reduced time frame will require further analysis.

Timing

First of all, the FX trader needs to know if there are available balances (funds) in order to make prices on a T0 basis, especially if there is a new component to the pricing of the transaction, such as the time at which the FX transaction is due to settle.

In order to do this, there will be additional requirements on the treasury/cash management functions of the market participants to know what is due to settle and the actual settlement status – hence the importance of knowing if funds have been received as soon as possible. This process can be further complicated when new technologies/sources of funding are included (such as digital assets/digital stores of value) as liquidity could be fragmented between sources. Consequently, it may be necessary to monitor and access new sources of liquidity across new or evolving infrastructures/marketplaces, noting these may have different operating hours to traditional markets.

Products

FX funding transactions typically involve FX swaps, yet as the market evolves, it may be necessary to develop new funding instruments (including a timed settlement element) such as same-day FX swaps or non-FX products such as central bank bridges[17]. These new short-term funding opportunities, potentially leveraging new receipt-based (versus Settlement Date) limits to allow for more accurate modelling, could increase the availability and provision of liquidity of traditional FX currencies but also provide liquidity between traditional FX currencies and digital assets/digital stores of value.

An extension of this idea is the provision of intra-day interest for long balances held on account, noting that will also require the provision of such services from Nostro banks.

Settlement netting

At this time, it is unclear how T0 and FX transactions with other tenors will be included in traditional settlement netting processes. The current preference both from a liquidity and a Settlement/Operational Risk perspective is to settle on a net basis. One consideration is that T0 transactions settle gross, whilst FX transactions with other tenors settle on a netted basis.

Market participants should also consider if 'batching' of settlement on T0 (i.e. settle multiple transactions at pre-defined times during the day) enables more settlement netting and therefore, more efficient liquidity management and a reduction of Settlement Risk. CLS for instance reports that multilateral netting results in over 96% reduction in funding requirements[18].

Conceptually, given that BIS reported in 2019 that an estimated $8.9 trillion/day settled outside of PvP mechanisms/at risk[19], there is a suggestion that there will be a requirement for mechanisms (or new technologies) to facilitate settlement netting for T0 FX transactions.

Finally, in today's world, there remains the ability to split payments and shape the cash-flows throughout the settlement period. Further analysis will be required to assess how this functionality is impacted with greater flows of T0.

Staffing models, skillset requirements

Recommendation 7: Market participants determine their strategic skill set requirements, inclusive of any new sources of individuals with those skills

We previously noted in our March 2020 paper titled '*Expanding Payment versus Payment (PvP) opportunities*' that market participants would need to assess if they had the right staffing models and skills in the right location(s). We believe that this remains true today and should be a key consideration in current (e.g. planning for T1 settlement of U.S. securities[20]) and future strategies.

However, what has changed since our 2020 analysis is:

i. The shift in working patterns (e.g. growth of hybrid working)
ii. The growth of the adoption of new technologies to enable working in a hybrid fashion

[17] https://www.bis.org/cpmi/publ/d209.htm
[18] https://www.cls-group.com/products/settlement/clssettlement/
[19] https://www.bis.org/publ/qtrpdf/r_qt1912.pdf
[20] https://www.gfma.org/wp-content/uploads/2023/05/gfxd-fx-considerations-for-t1-u.s-securities-settlement-may23-003.pdf

Both of these changes have the potential to enable new skills to be brought to the market (e.g. access to a workforce that traditionally may not have been available) and encourage greater diversity and retention of staff.

The corresponding growth within the digital market over this period and the associated expertise in operating within more instant settlement models can also be of value to the wider market. The sharing of lessons learnt and best practices between digital and traditional finance market participants will help expedite understanding and wider adoption. Conversely, market participants who have automated, simplified, or offshored a range of functions over the last 30 years may also have to 'reskill' staff in the existing settlement, treasury and post trade functions, on new settlement rails and ways of operating in a T0 framework.

A move to T0 settlement may also necessitate demand for individuals with a more 'cross-functional' or 'front-to-back' mind-set, who can apply their understanding of settlement processes as well as an appreciation for credit liquidity (as illustrated in Figure 1 above). Access to and collaboration with all the relevant divisions (e.g. Treasury) will also be important. However, given the broad remit of such a role, market participants will need to establish clearly defined roles and responsibilities with clear segregation of duties for individuals leading on T0 settlement. Overall, such new staffing models may result in greater costs to market participants, at least in the initial stages of the transition to T0.

3. Supervisory and Regulatory Developments

Recommendation 8: FX regulations and supervisory guidance should be harmonised across both i) jurisdictions, and ii) market participants and be future proofed, promoting 'same activity, same risk, same regulatory outcome'

Recommendation 9: Market participants and the public sector should engage to discuss the concept of a global Settlement Date

FX, by definition, is a cross-border market and effective and efficient operation is influenced by the regulatory framework – the more harmonisation between jurisdictions the better.

The settlement of FX transactions is no different, and we note the importance of guidance such as the 2013 Bank of International Settlements (BIS) *'Supervisory guidance for managing risks associated with the settlement of foreign exchange transactions'*[21]. The MAG is keen to see if and how this and other similar guidance is applied and/or evolves as either FX settlement cycles reduce in time, or new technologies enable new types of trading and settlement flows, for example between traditional and new digital technologies – and looks forward to engaging with supervisors on these topics.

There are several ongoing global supervisory initiatives which have a FX settlement element to them, such as the CPMI cross border payments programme. The MAG supports and promotes that these types of initiatives are effective in promoting supervisory harmonisation between jurisdictions.

Similarly, the Bank of International Settlements (BIS) has published many papers on the growing role of new technologies and how these can impact established financial markets, as well as performing multiple projects through their Innovation Hub[22], such as those connecting jurisdictions to enable cross-border settlement in wholesale CBDCs – as well as focusing on regulation. These and local regulatory sandboxes and experiments, such as the digital bond issuances by the European Investment Bank (EIB)[23] are critical in identifying how new technologies and practices can work, providing guidance to the wider market.

[21] https://www.bis.org/publ/bcbs241.htm
[22] https://www.bis.org/about/bisih/about.htm
[23] https://www.eib.org/en/press/all/2023-030-eib-issues-its-first-ever-digital-bond-in-british-pounds

Other bodies, such as the Global Foreign Exchange Committee (GFXC)[24] also promote effective wholesale FX settlement processes, specifically through the Global Code's Principle 35 *'Market Participants should reduce their Settlement Risk as much as practicable, including by settling FX transactions through services that provide PVP settlement where available'* and Principle 50 *'Market Participants should properly measure, monitor and control their Settlement Risk equivalently to other counterparty credit exposures of similar size and duration'*.

It is important that evolving regulation and industry practices continue to enable innovation and be 'future proofed', but also protect the transparency and integrity of the market through 'same activity, same risk, same regulatory outcome'. The MAG notes that whilst there are benefits in coordinated Central Bank activity, there are also benefits when Central Banks perform their own individual experiments and analysis.

The development of new technologies needs to consider and be aligned to existing FX industry requirements such as Settlement Finality[25], but also identify where existing regulatory requirements, such as a requirement for paper confirmations, needs to be revised.

Existing conventions, such as Settlement Date (Value Date) may also need revisiting to accommodate for T0 and PvP settlement across time zones. In our 2020 paper titled '*Expanding Payment versus Payment (PvP) opportunities*' we suggested that Settlement Date may ultimately align with the 'global trading date', i.e. a globally consistent 24-hour period. This topic however requires careful consideration and debate between the private and public sectors, given the significantly wider implications to traditional FX and other asset classes. Success, however, may yield a standardised 24-hour operating period, enabling more opportunity for PvP and DvP of FX and associated assets.

Finally, whilst new digital technologies can enable T0, at this stage we do not expect there to be changes to existing FX market conventions such as the FX spot and forwards market. We do however expect there to be more choice on how, when and where FX transactions are executed and settled.

Conclusion

Despite the evolution in new technologies and the benefits that these technologies may bring, there are a significant number of challenges for the industry to overcome in order for the volumes of T0 transactions to increase, or for more choice on when wholesale FX transactions settle at scale.

Whilst some of these challenges have a regulatory angle, the majority are economic and operational in nature. There is also an efficiency challenge, especially given the cross-functional nature of the FX Value Chain, for example ensuring that communications between divisions and Nostro banks are clear, concise, and timely.

It is unclear at this stage if there is the commercial desire for more T0 activity, given the significant cost implications that market participants must consider, and the associated challenges of achieving scale in a cost and risk efficient manner, whilst reducing the amount of Settlement Risk within the ecosystem.

The MAG strongly supports the need for further private-public sector dialogue on these topics and welcomes the opportunity for further industry engagement.

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[24] https://www.globalfxc.org/
[25] https://www.gfma.org/wp-content/uploads/2023/05/impact-of-dlt-on-global-capital-markets-full-report.pdf

Annex: Glossary

FX Value Chain	The sequence of processes across the FX model from pre to post trade.
Interest	Money charged by a bank for borrowing money.
Nostro Account *	A foreign currency-denominated account (usually at a foreign bank) where a domestic bank keeps reserves to maintain its balance in that currency and to make and receive payments.
Operational Risk *	The risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. This definition includes legal risk and excludes strategic and reputational risk.
Payment-versus-Payment (PvP) *	A settlement mechanism that ensures the final transfer of a payment in one currency if, and only if, a final transfer of a payment in another currency occurs.
Settlement Date	The date the Transaction settles and any applicable payment is made by one party to the other party.
Settlement Finality *	The irrevocable and unconditional transfer of an asset or financial instrument, or the discharge of an obligation by the FMI or its participants in accordance with the terms of the underlying contract. Final settlement is a legally defined moment.
Settlement Risk *	Also known as Principal/Herstatt Risk. The risk of outright loss of the full value of a transaction resulting from the counterparty's failure to settle. This can arise from paying away the currency being sold but failing to receive the currency being bought.

* https://www.bis.org/publ/bcbs241.htm Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions