GFMA Global FX Division

Considerations relevant to initiatives and developments in wholesale FX settlements

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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 Merrill Lynch, Bank of New York Mellon, Barclays, BNP Paribas, Citi, Credit Agricole, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JP Morgan, Lloyds, Mizuho, Morgan Stanley, MUFG, NatWest Markets, Nomura, RBC, Scotiabank, Société Générale, Standard Chartered Bank, State Street, UBS, Wells Fargo and Westpac.

1. Introduction

In September 2018 the GFXD's Market Architecture Group (MAG) published a paper[2] promoting interoperability between new technologies and service providers in the FX market. Based on the GFXD MAG's belief that a common understanding as to desirable business outcomes will complement on-going technical developments, itself intended to promote increased efficiency and cost management in FX, the 2018 paper seeks to engage with the industry in providing a set of considerations and recommendations relevant to interoperability.

Building on this work, the GFXD MAG has since commenced a more focused analysis of global wholesale FX settlements, including today's FX 'settlement cycle', a process which is vital to the global FX market and which is defined by rules and procedures determined within individual Central Banks around the world and enabled by these Central Banks' real-time gross settlement systems (RTGS systems).

The FX market is the world's largest financial market and the effective and efficient exchange of currencies underpins the international financial system. The FX market is also the basis of the global payments system, meaning the volume of transactions is very high, with transactions often executed by market participants across geographical borders.

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; and
- to make cross-border investments and raise funding outside home markets.

Given the importance of settlements to the overall functioning of the FX market, the GFXD MAG is keen to promote efficient and "safe" wholesale FX settlements. This paper introduces a series of considerations which should be taken into account by foreign exchange market participants/stakeholders in contemplating, assessing or introducing any change to today's wholesale FX settlement processes. The GFXD MAG recognises that these changes could be prompted by new technologies, operational or cost efficiencies, or other advancements or developments within the FX market infrastructure.

In publishing this paper, the GFXD MAG is also promoting the guidelines in the 2013 BCBS 'Supervisory Guidance for managing risks associated with the settlement of foreign exchange transactions'[3] and the principles and guidelines in the FX Global Code[4], with the desire to reduce any rising systemic risk that may result from either the introduction of new technologies for FX settlements or changes or enhancements to current FX settlement processes. In doing so, the GFXD MAG also acknowledges that additional questions arise, such as the potential impacts on the FX ecosystem of a new technology failing.

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

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2https://www.gfma.org/wp-content/uploads/2018/09/recommendations-for-the-promotion-of-interoperability-between-new-technologies.pdf
3 https://www.bis.org/publ/bcbs241.htm ("BCBS FX Supervisory Guidance")
4 https://www.globalfxc.org/fx_global_code.htm

2. Wholesale FX Settlements

The settlement of FX transactions can be considered as 'the making of payments or exchange of payments between counterparties on a FX transaction's settlement date'[5].

Usually there are several parties engaged in the process of effecting a payment, and at its most simple this includes:

- the counterparties to the transaction;
- the banks with which the counterparties hold their accounts in that specific currency (also known as the agent or nostro/vostro bank); and,
- the Central Banks whose national currency is involved in the payment.

The payment process is commenced through a process known as 'instructing a payment' in which a counterparty will instruct their agent bank to debit their account and make a payment to their counterparty's account at the relevant agent bank. Once a payment is instructed, a series of messages, usually electronic, will be passed between each party to ensure that the correct details are communicated to result in the correct payment currency and amount being debited from and credited to the right accounts at the right bank at the right time. There then follows an account reconciliation process to ensure the funds have been credited. This process is known as the 'settlement cycle'.

Each Central Bank will have well defined hours of operation in which payments can be instructed and received in their national currency. Likewise, each agent bank will also have well defined hours of operation in which they can instruct and receive payments.

Most Central Banks will operate their wholesale FX payments via RTGS systems, which enables the real time electronic transfer between agent banks in a final and risk-free basis.

As an FX transaction is typified as being composed of two currencies and amounts, each party will therefore make a payment in one currency and receive a payment in another currency. Due to the operating 'windows' being different across Central Banks, it is likely that a counterparty to a trade could be exposed to 'settlement risk', which we discuss in more detail below.

3. Considerations relevant to initiatives and developments in wholesale FX settlements

The GFXD MAG has recognised that potential challenges will likely be faced should market participants either adopt new FX payment/settlement technologies at varying paces or adopt technologies which are unable to connect with each other and thus reiterates the importance of interoperability.

Furthermore, to the extent new initiatives, or changes to existing processes such as RTGS settlement windows are introduced, the GFXD MAG is of the view that these should seek to mitigate risk and not fracture or complicate the FX market, or introduce new risk to the market. The FX market is typified by its high number of participants and deeply connected technologies across geographical borders – consideration is required between the balance of the benefits of new solutions in reducing risk versus any disruption to the existing ecosystem. The reduction of risks within the settlement of FX trades is of paramount importance to the industry and the GFXD MAG recommends that those looking to develop new solutions engage with the industry to ensure the potential risks and outcomes are well understood.

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5 https://www.newyorkfed.org/medialibrary/microsites/fxc/files/2016/fxc011916.pdf

The GFXD MAG has assessed several risk areas which could be implicated and impacted as and when changes are made to FX settlement processes or cycles:

1. settlement risk;
2. liquidity risk; and
3. disruption risk.

For each of these risk areas, a series of specific considerations has been highlighted which should be taken into account when contemplating any changes to today's wholesale FX settlement process or cycles.

a. Settlement Risk Considerations

'Settlement risk', for purposes of this paper, is the risk that one party to a physically settled FX transaction pays out the currency it sold but does not receive in full, when due, the currency it bought (the counter-currency)[6].

Given the very large notional amounts that are exchanged in settlement of FX transactions on a daily basis, settlement risk or Herstatt Risk[7] is a major risk with physically settled FX transactions. Beginning in the mid-1990s, Central Banks became increasingly concerned that the high level of risk caused by then-existing FX settlement practices, coupled with an unexpected event or failure, could trigger a serious disruption of the global FX market and financial system liquidity.

In 1996, the BIS recommended that industry groups develop a multicurrency service to protect against the loss of principal in FX settlements. A study by a group of major financial institutions resulted in their establishment in 1999, via a consortium, of CLS Bank International.[8] For the currencies it settles, the CLS settlement service facilitates the simultaneous settlement of both legs of an FX trade with finality on a payment-versus-payment ("PvP") basis, thus eliminating settlement risk.

Considering the FX market's significant international dimension and the magnitude of FX settlement flows, settlement risk can have systemic implications for the financial markets as a whole.[9] Accordingly, the GFXD MAG is keen to promote industry facilitation of greater PvP settlement, as well as enhancements to the safety of settlement for FX transactions not settled on a PvP basis, whether through technology advancements, the extension of Central Bank RTGS windows or other means.

Several concepts and considerations should be borne in mind within the context of FX settlement risk:

- **Settlement date**: The period during which FX payments can be made over Central Bank accounts via RTGS systems is currently restricted to the operating hours of the relevant Central Bank. If it were to become possible to transfer RTGS payments during an extended period, or continuously, moving away from local operating hours to ultimately 24/7, the concept of settlement date may need to be re-considered, potentially aligning with the current market practice of a global trading day. The concept of a global settlement date is considered by the GFXD MAG to be of significant value in mitigating the settlement risk with FX transactions, increasing the opportunity for PvP between parties, and is expected to positively impact the way in which counterparty risk exposure in FX trades is measured and mitigated.

- **Point of settlement**: The point at which an FX transaction has been settled is often determined by the reconciliation of end-of-day agent bank statements, to confirm receipt of funds. If the end-

6 https://www.bis.org/publ/bcbs241.htm
7 Also referred to as 'principal risk', see: https://www.bis.org/publ/qtrpdf/r_qt0212f.pdf
8 https://www.cls-group.com/
9 https://www.bis.org/publ/qtrpdf/r_qt0212f.pdf

of-day is extended, such that end-of-day statements are received later[10], this may impact the timing as to when settlement can be confirmed, which may have risk management implications. The GFXD MAG however expects that a global settlement date is likely to lead to the development of automated reconciliation processes – with a timestamp - to ensure timely confirmation of settlement. We also recognise that the timestamp could be an important technical development in the management of real-time payments, allowing real-time credit management and ultimately freeing up funds for other purposes, such as investment.

b. Liquidity Risk Considerations

'Liquidity risk,' for purposes of this paper, is the risk associated with the ability of a market participant to fund its FX payment obligations when due (e.g. whether either intra-day or for next-day value).

Whether and how much liquidity risk is present, and is managed, may depend on the ability to prioritise cash flows for specific payments, bearing in mind the challenges arising from the global nature of the FX market where each currency currently has its own individual settlement cycle. Depending on market conditions, or other more proprietary reasons, market participants will also be reliant on the timely receipt of funds in order to manage their liquidity risk.

Several concepts and considerations should be borne in mind within the context of FX liquidity risk:

- **Operational and resourcing considerations**: Market participants will have built their support models - from the location of staff to the performing of functions – based on the existing market ecosystems. Market participants may instead be required to use a 'follow the sun' model in order to accommodate extended RTGS operating hours. As market developments evolve, roles and responsibilities may also be required to evolve to allow, for example, trading/sales to cover extended hours. The GFXD MAG welcomes discussion on this evolution and how it could impact the operation of the market and the operating practices of market participants.

- **Network of new technologies**: An increase in the availability of payment technology solutions will likely lead to a greater number of market participants being active within this part of the FX value chain. Due to the increase in the number of payment technology solutions, market participants will be required to manage credit/debit balances across more payment platforms/systems. In doing so, it is expected that market participants will re-assess their exposures and operating practices by consolidating and actively managing balances across a wider number of platforms, potentially requiring new products and tools to do so. The GFXD MAG also believes that Central Banks, through policy or new processes, can help market participants assess the impacts of such market-structure changes.

- **Intra-day settlement**: Today, intra-day payments for non-CLS trades are generally released based on the order in which the instruction to pay is received at the agent bank. New technologies are expected to allow market participants to actively manage the sequencing of the release of intra-day payments to meet specific requirements. Current operating procedures will also need developing to monitor real-time settlement activity, in turn allowing for more efficient funding for external payments as well as for balances settling cross accounts within an organisation.

- **Allocation of capital**: More precise liquidity risk profiles (as a result of more active account management) will influence capital inputs such as the leverage ratio, which may in turn impact the allocation of capital. Such changes are expected to help free up capital from balance sheets which

10 Depending on the currency and geographical location of the recipient, some end-of-day statements may currently be received on a settlement-day + 1 basis

once re-cycled could be used by market participants, for example promoting more investment within the real economy.

- **Interest calculations/claims**: New models may need to be considered in respect of extended settlement 'windows' e.g. hourly interest instead of daily. Such changes could introduce new liquidity management opportunities as the market identifies where liquidity is 'located' and accessed to meet obligations in a more cost-efficient manner, especially in times of market stress.

c. Disruption Risk Considerations

The GFXD MAG has defined 'disruption risk' for purposes of this paper as the impact of the failure of a new technology or new business model on the existing ecosystem, specifically when the systemic importance of that new technology was not transparent to other market participants.

The expectations, roles and responsibilities of market participants currently involved in the wholesale FX market is well understood, for example as documented in the CPMI-IOSCO 'Principles for Financial Market Infrastructures',[11] a set of international standards for financial market infrastructures (payment systems, central securities depositories, securities settlement systems, central counterparties and trade repositories). Market participants are therefore able to assess and manage their multiple risk exposures accordingly and the transparency afforded through the knowledge that those they interact with comply with industry established principles is of considerable value in promoting the safe operation of the market, including the settlement of wholesale FX.

As changes to today's wholesale FX settlement processes are contemplated, or introduced into the FX market – whether from new technologies or through the evolution of existing technologies e.g. those used in other sectors, such as retail - it is important to ensure that the expected high standards of operation continue, so that participants can successfully assess the risks they are exposed to. Whilst not limited to, some of these parameters could include assessments of exposure to market participants, specific currencies or even the volumes of trades executed.

In the event of a failure, a new risk of contagion could be introduced if the importance of, or known networked exposure to, the technology within the ecosystem was not widely understood.

4. Other Considerations

The FX market is typified by a significant number of participants and over time has evolved considerable levels of interconnectivity. It is widely expected that the level of adoption of new technologies will vary considerably across the market. Further analysis is required to better understand the practical considerations of the adoption of changes to today's wholesale FX settlement processes.

Other risks areas, such as market risk, regulatory risk, legal risk and operational risk were also considered by the GFXD MAG but have not been addressed within this paper.

Both considerations may be topics for future GFXD MAG analysis.

11 https://www.bis.org/cpmi/info_pfmi.htm

5. Glossary

Disruption Risk	The impact of the failure of a new technology on the existing ecosystem, specifically when the systemic importance of that new technology was not transparent to other market participants
Follow the sun	Workflow process where items are passed between offices to ensure continuous coverage
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
Leverage ratio	A capital adequacy tool that measures a bank's Tier 1 capital divided by its total exposures
Liquidity Risk	The risk associated with the ability of a market participant to fund its FX payment obligations when due (e.g. whether either intra-day or for next-day value)
Payment-versus-payment (PVP)	The 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
Real-Time Gross Settlement (RTGS)	The continuous (real-time) settlement of funds or securities on an order-by-order basis (without netting)
Settlement Risk	The risk that one party to a physically-settled FX transaction pays out the currency it sold but does not receive in full, when due, the currency it bought (the counter-currency)

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