Global Foreign Exchange Division

Promoting Greater Adoption of Dynamic, Real-time Credit Solutions in the FX Market

June 2023

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 Mellon, Barclays, BNP Paribas, Citi, Credit Agricole, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, ING, JP Morgan, Lloyds, Mizuho, Morgan Stanley, MUFG Bank, NatWest Markets, Nomura, Northern Trust, RBC, Standard Chartered Bank, State Street, UBS, US Bank and Wells Fargo

[2] According to Euromoney league tables

Executive Summary

- **This paper aims to promote the adoption of dynamic credit management and allocation tools now available to address systemic credit over allocation within the Foreign Exchange (FX) market**
- **Broader adoption of dynamic credit solutions will enhance the FX market structure for the benefit of all Institutional FX market participants by facilitating increased trading opportunities and meeting client demand when and where it is needed most**
- **The purpose is to highlight the current risks and future benefits of dynamic credit solutions including:**
    - **Harnessing the benefits of greater automation and efficiency of the credit management process**
    - **Understanding the implications of utilizing a "single pool" of credit**
    - **Foster good governance and practice by supporting Principle 41 of the FX Global Code**

Introduction

Foreign Exchange (FX) market participants rely on the supply of credit to access market liquidity and to facilitate their FX trading. There is a reliance on the providers of credit – the banks, to optimize the credit allocation and management process to help enable more efficient access to liquidity and the overall efficient functioning of the FX market. New dynamic credit management tools have been developed to advance the credit management process, and with broader adoption, can offer a more sustainable FX market structure which benefits all market participants.

The daily average FX market volume is $7.5tri[3]– of which 17.5% or $1.3tn[4] is executed via a FXPB. This growth in FX market volume has been matched by the development of new trading technology solutions designed to offer dynamic and real-time credit monitoring and management capabilities that provide a compelling response to the challenges of managing the over and under allocation of credit. "Encouraged Practices for Participants in the FX Prime Broker Ecosystem"[5] outlined six key principles to promote the utilization of dynamic credit solutions that have been developed to improve credit limit monitoring and management capabilities within the FX and FX Prime Broker (FXPB) market.

The adoption of real-time dynamic credit solutions will also help to address the areas of increased supervisory focus on FX market credit. Increasing the adoption and capabilities of real-time credit limit management solutions will assist in mitigating systemic and counterparty risk, potentially caused through the over allocation of credit. Heightened awareness of the benefits of automated credit management solutions was evident after the recent collapse of Silicon Valley Bank.

This paper will highlight the benefits of adopting dynamic credit solutions, by outlining how these solutions can result in greater market access to deeper liquidity and facilitating increased trading opportunities to all Institutional FX market participants.

[3] BIS Quarterly Review, December 2022 BIS Quarterly Review, December 2022
[4] BIS Triennial Central Bank Survey OTC foreign exchange turnover in April 2022 - Annex tables, revised on 5 December 2022 (bis.org)
[5] GFXD – "Encouraged Practices for Participants in the FX prime Broker Ecosystem" Feb 22 https://www.gfma.org/wp-content/uploads/2022/02/gfxd-fxpb-encouraged-practices-final-220216.pdf

Background

Developments in technology continue to facilitate the growth of the wholesale FX market. This is witnessed across the entire FX trade lifecycle, where the focus of these new technology solutions has broadened from pricing and execution tools to now include other functions including settlement and credit management.

The focus of this paper is on the credit aspect of the FX trade lifecycle - to highlight the current risks, including over and under allocation of credit, and to draw attention to the future benefits of broader market adoption of the dynamic credit allocation tools that are now available. The intention is to encourage increased adoption of these credit tools as being one solution to address the current risks and challenges facing the FX and FXPB market, in addition to further enabling more efficient market access and to facilitate trading - when and where it is needed most.

Market participants rely on access to credit to facilitate trading and access to market liquidity. Credit creation is a core competency of banking and requires the support of robust credit and risk management solutions to execute the quantum of FX trades transacted each day. The impact of SA-CCR and the increased cost of capital also determines the ability to face counterparties, especially in longer dated trades, making the decision of optimizing credit allocation even more important.

New technology solutions that optimize the credit allocation process in FX are available but are yet to be broadly adopted. There is an opportunity for market participants to embrace these new credit management tools and realize the following:

- Harness the benefits of greater automation and efficiency of the credit management process
- Address the systemic over/under allocation of credit
- Maximise the benefits of a "single pool" of credit
- Facilitate increased trading opportunities – meeting client demand when and where it is needed most
- Foster good governance and practice by supporting the FX Global Code[6]– e.g., Principle 41.

The Current State – Static Allocation of Credit

The FXPB market has grown to $1.3tn per day using credit allocation processes that are predominantly based on existing legacy infrastructure and market practices. This "static" credit process risks either an over or under allocation of credit being deployed resulting in missed trading opportunities when client demand spikes. Growth in FX trading volumes could increase further by using automated and dynamically allocated credit tools, which are designed to meet the client demand – when are where it is required.

The GFXD conducted a survey in conjunction with FXPB's and Executing Dealers (ED's) which identified the willingness to embrace the new dynamic credit monitoring technologies and to work towards addressing this dilemma. Credit needs to move from a static ecosystem of multiple pools and locations of credit to singular pools that can be dynamically distributed where and when they are required.

We have used two scenarios 1) FX Prime Brokers and 2) Executing Dealers to help explain the credit "conundrum" - how the over and under allocation of credit can occur, and to show where credit allocation can be optimized using new dynamic credit management technology solutions.

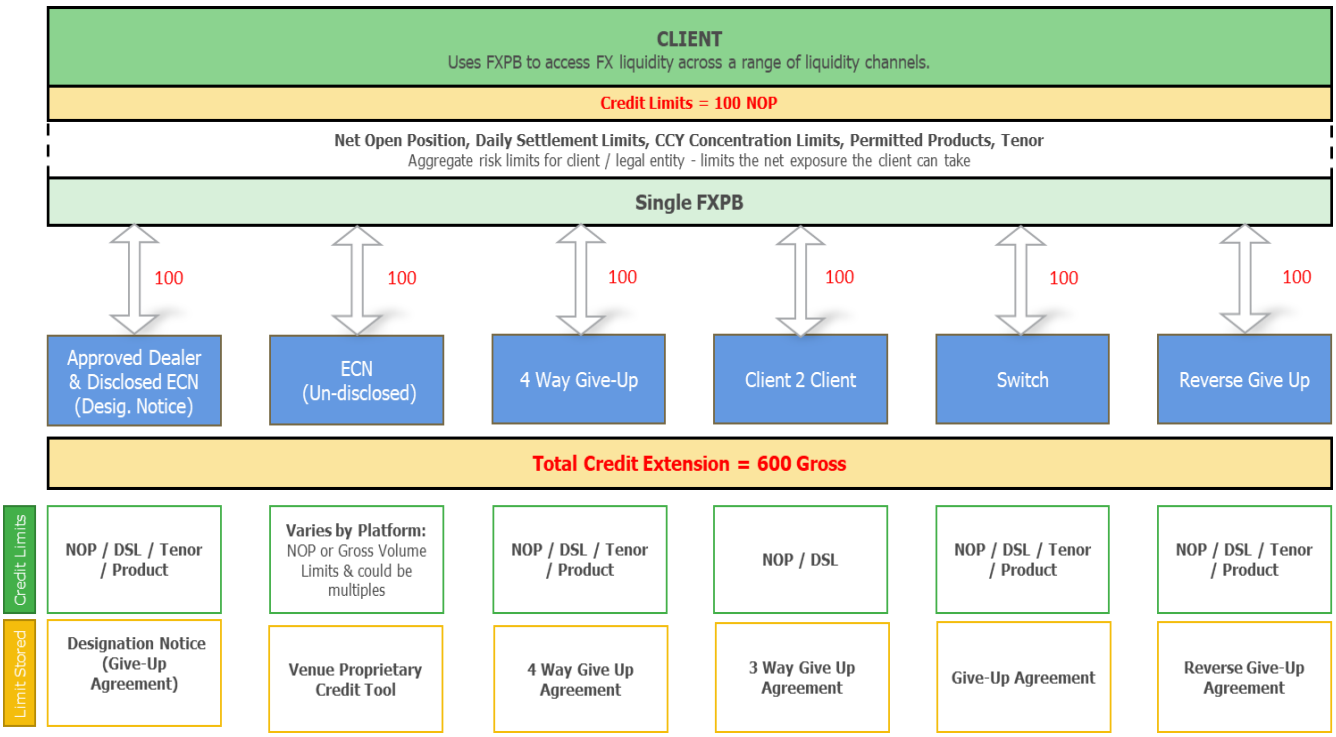
[6] FX Global Code – Principle 41 "Considerations Related to Prime Brokerage Activities." https://www.globalfxc.org/docs/fx_global.pdf

Scenario 1 – FX Prime Broker (FXPB)

FXPB's serve an important function within the FX market - enabling client firms, such as asset managers and currency funds with FX needs, to source FX liquidity from a variety of dealer liquidity providers whilst maintaining a credit relationship, placing collateral, and settling with a single entity— the FX prime broker.[7] The FXPB service enables clients greater access to market liquidity and better execution, in doing so helping to uphold their best execution obligations in ways that may not be supported solely with a bilateral relationship.

As such, FXPB's play a unique role in intermediating market flow and providing credit facilitation to their underlying clients. A key component of the FXPB relationship is credit, both to the end client but also to the wider FX ecosystem. Under the existing model (See Figure 1), FXPBs could over or under extend credit to their client directly with ED's via Designation Notices (DNs) and to undisclosed trading platforms (ECNs)[8].

Figure 1: FXPB Workflow Model



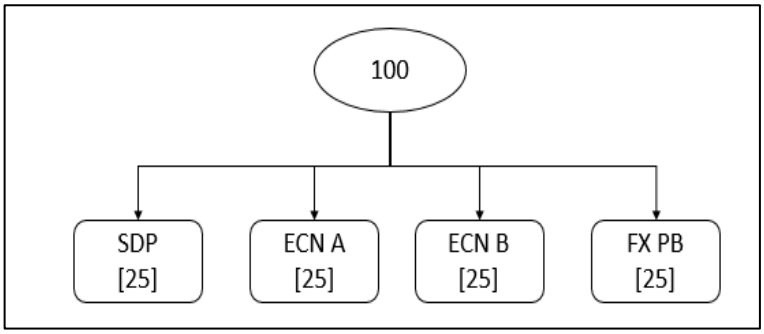
The above is a straight-forward example of how the "over-allocation of credit" (i.e. 600 gross vs 100 Net Open position limit "NOP") could eventuate and is currently monitored and managed by the FXPB credit management service.

[7] Foreign Exchange Prime Brokerage: Product Overview and Best Practice Recommendations (newyorkfed.org)
[8] Electronic Communication Network - The ECN provides an electronic system for buyers and sellers to come together for the purpose of executing trades. https://www.investopedia.com/terms/e/ecn-broker.asp

Scenario 2 – Executing Dealer

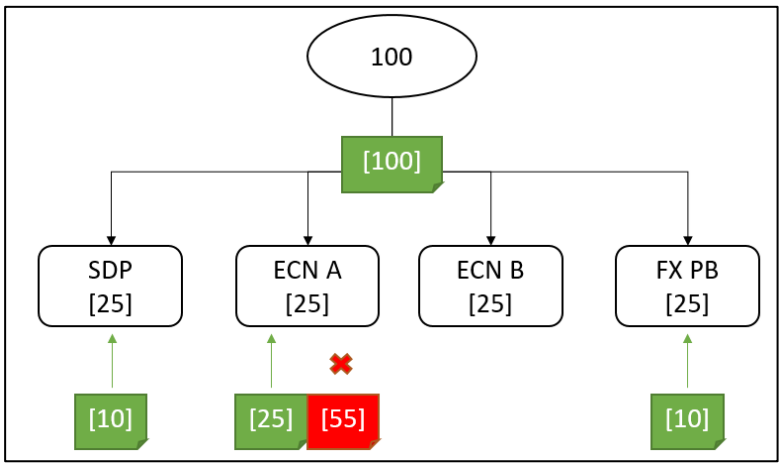
Let us assume a large financial institution (Bank A) has an "Over the Counter" (OTC) FX relationship with a regional bank (Bank B). The credit risk appetite is assessed to be 100 units. Bank A wants to interact with the client in several capacities – execution on its Single Dealer Platform (SDP), on two undisclosed electronic trading platforms (ECNs), and via several DNs to its FXPB department. If we assume this is allocated equally, we get the following allocations as outlined in Figure 2.

Figure 2: Static Credit Allocation – Bank A (100 units)



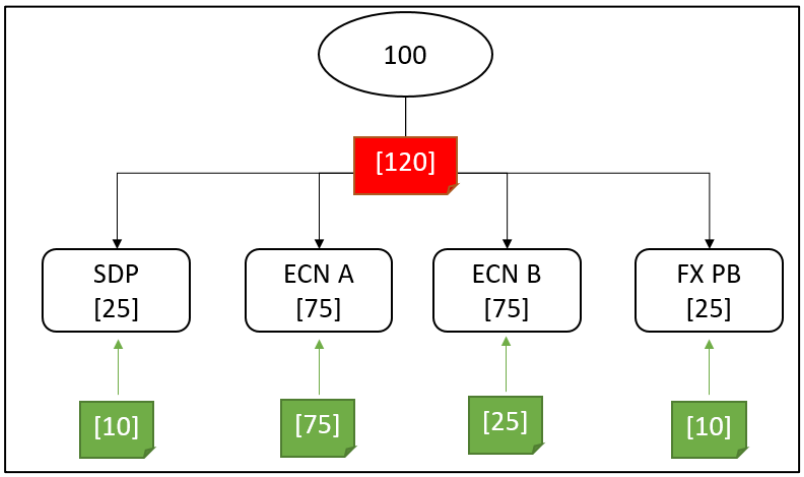
A market event results in active FX trading which would create a trading opportunity of 100 units with Bank B. However, the pair(s) where this event is most actively trading is on ECN A with some taking place via the SDP and FXPB as shown in Figure 3.

Figure 3: Static Credit Allocation – Market Event



All trades on the SDP and via FX PB are filled. However insufficient credit exists on ECN A and subsequently both parties miss out on trading opportunities for the remaining [55]. Alternatively Bank A could have tried to pre-empt this by allocating a greater amount of credit to all platforms beyond the 100. Conversely this then risks a scenario where static lines are filled beyond an aggregate limit (i.e. over allocation of credit) to which Bank A is comfortable – in this case 120 units (vs 100 limit) as shown below in Figure 4.

Figure 4: Static Credit Allocation - Post Trade



The above example illustrates the challenges an institution has in effectively deploying its credit to maximise trading opportunities because of the limitations of static credit limits. Trading opportunities can manifest themselves via different channels at various points. The inflexibility of the "static limit" structure inhibits both the client – through limited access to better pricing and liquidity, and the FXPB by missing the ability to capture the client demand. The current process to amend the limits would not take place in time to capture the client flow or capitalize on the market opportunity.

Dynamic credit tools manage this dilemma – resulting in credit being allocated automatically to where and when it was required and maximizing the trading opportunity for both the client and FXPB.

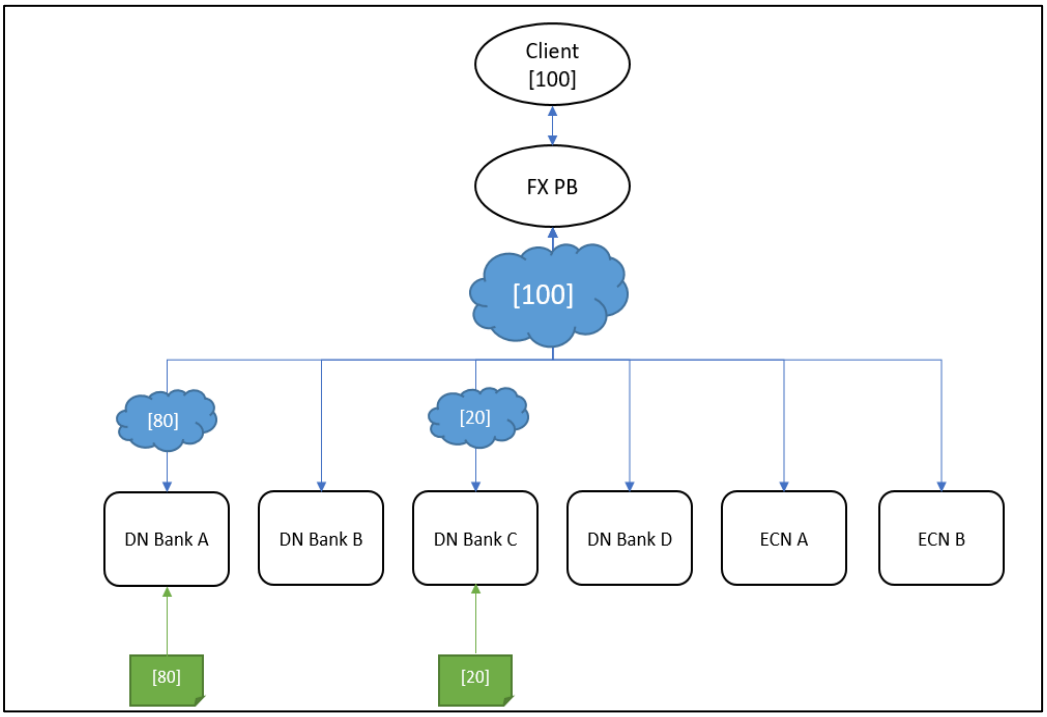
The Opportunity – Dynamic Credit Allocation

Scenario 1 – FX Prime Broker

The FXPB could designate a singular pool of credit to the client to be utilized where and when it's required, and pro-actively managed within the allocated credit limits reflecting the firm's appetite for counterparty risk. Taking the example in Figure 5, let's assume FXPB has an overall credit appetite to the Client of 100 units. 20 of these are already being used by other business, thus 80 remains available.

A market opportunity presents itself where the FXPB client wishes to trade its entire 100 risk units via the FXPB. The dynamic credit rebalancer would assign a maximum of 80 credit units to Bank A available to the client in conjunction DN Bank C with available credit from other sources, as shown in Figure 5 below:

Figure 5 Dynamic Credit Allocation



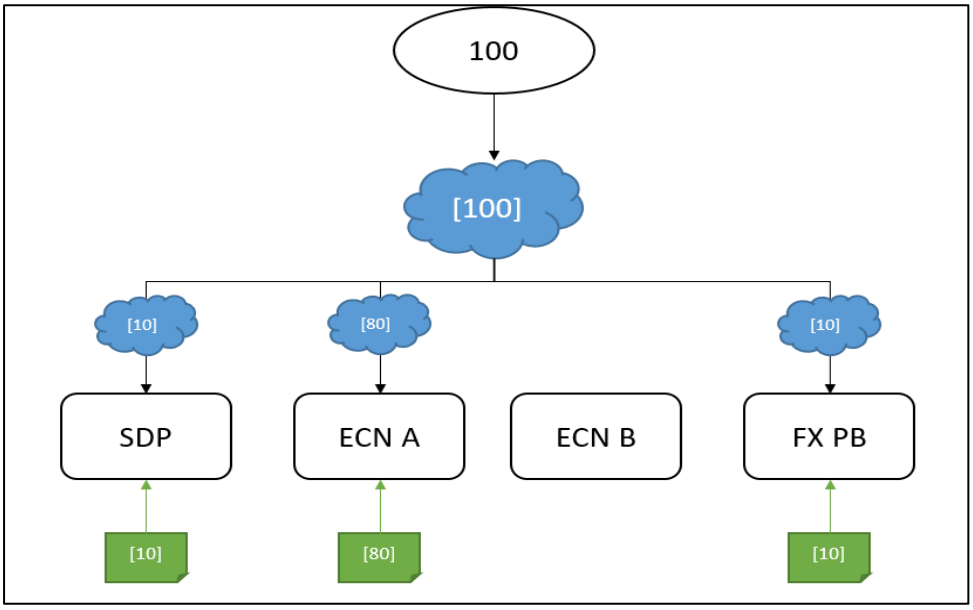
The FXPB has been able to maximise the trading opportunity on DN Bank A by allowing the client of the FXPB to access excess credit, liquidity and pricing. The client has also been able to increase their access to market liquidity in a timely manner and not constrained to smaller static limits as demonstrated in the prior FXPB example. Importantly, neither counterparty - FXPB nor the institution - has over or under extended credit to a point beyond their risk appetite.

The demand for and use of credit was optimized dynamically.

Scenario 2 – Executing Dealer

If we were to take this same scenario in the context of dynamic credit, there would be no assignment of credit lines to be locked at different venues. Alternatively, a singular pool of 100 units of credit will exist which has an ability to distribute credit as and when it is needed – i.e. dynamically. In the instance where a requirement comes for ten units to be consumed at the SDP, eighty at ECN A, and ten by the FXPB, the central credit mechanism can distribute this supply to where and when it is required. Subsequently, the full trading opportunity is maximised and the limit dynamically managed to ensure there is no over usage beyond the firm's credit appetite as shown in Figure 6.

Figure 6 Dynamic Credit Allocation 2



Greater Credit Risk Management Tools - Lowering Systemic Risk

Another benefit of the increased adoption of dynamic credit solutions is the potential to lower systemic risk across the broader FX market. Recent supervisory focus has been on the systemic risk associated with the over allocation of credit risk and FX Settlement Risk. Broader market adoption of dynamic credit solutions that enable optimal credit limit management and improve capabilities for real-time credit limit monitoring help to mitigate the possibility of systemic risk. Single pools of credit also maximise the netting benefits and can lower Settlement Risk. This outcome would require broader adoption by all market participants including – FXPB's, ED's and service providers/vendors.

Supervisory guidance has also been directed towards encouraging the use of real-time credit monitoring solutions. The FX Global Code Principle 41 notes that "Prime Brokerage Participants should strive to monitor and control trading permissions and credit provision in Real Time at all stages of transactions in a manner consistent with the profile of their activity in the market to reduce risk to all parties."[9] The BIS also states in their BCBS 2013 Supervisory guidance for managing risks associated with the settlement of FX transactions '..Where a bank is acting as a prime broker, it should have ex-ante processes in place to prevent client trades from creating exposures

[9] FX Global Code – Principle 41 "Considerations Related to Prime Brokerage Activities." https://www.globalfxc.org/docs/fx_global.pdf

that would exceed the limit. . .. [and] use an ex-ante process that updates and reports exposure on a timely basis, preferably as each trade is executed.'[10]

The more recent collapse of Silicon Valley Bank highlights the increased incidence of credit risk with the added velocity of "digital bank" runs and market contagion. These market events further highlight the benefits of using automated and dynamic credit managements solutions.

The Implications of Moving to Dynamic Credit Allocation

The above scenarios illustrate the benefits of embracing dynamic credit solutions, specifically increased trading opportunities while improving credit management and monitoring capabilities and lowering systemic credit risks. The technology to deliver this enhanced solution exists today. The challenge is how to encourage greater market adoption and understanding the implications of dynamic credit allocations solutions including:

1. **Adoption/Integration of new technologies** – These tools are available now. However the process of adopting and integrating new technologies needs the both the timing and funding to be prioritized. Adequate funding, appropriate risk assessments and impact analysis on current business processes all need to be considered. One example is to ensure the inclusion of new credit facilities for e-trading platforms can address any latency issues that may eventuate between execution and credit rebalancing process.

2. **Effects of dynamic limit allocation** – By definition, credit limits will become dynamic suggesting the FXPB has the flexibility to control the allocation and rebalancing of credit from one source to another, to accommodate the demand. Evaluation of a dynamic credit limit environment from both sides of the trade need to be considered and agreed between all parties, e.g. FXPB and SDP, ECN, etc. This is a major shift from the current state of static, established trading limits.

3. **"Dynamic" Designation Notices** - The premise of a DN today is a predefined acceptance of credit by a given PB to an ED. These limits are agreed and remain static because of the executed legal DN document. Having a multiple DN structure is also administratively burdensome for an FXPB to manage. This process would need to be reviewed to include enabling dynamic limit adjustments from PB's to ED's in real-time. This may represent a sizeable change in philosophy and architecture for ED's, effectively enabling the FXPB to effect real-time changes to limits to their ED's and SDPs. The notable benefit is that this process offers more certainty of execution/trade acceptance by the PB.

4. **Creating a network effect for adoption of new technologies** – As with most new technologies, encouraging broader adoption will enhance the benefits of scale. New "dynamic credit allocators" will attract more flow where and when its required. Increased market adoption could enable larger trading volumes that are effectively monitored and managed more diligently.

5. **Supervisory and Regulatory roles** - Central banks could use their convening power to help catalyse private sector engagement and solutions for addressing structural problems in FX markets. This could include promoting the increased adoption of dynamic credit allocation tools amongst FX market participants to capture the improved credit management tools that are now available. Increased adoption would also promote the FX Global Code Principles. e.g. Principle 41 "Prime Brokerage Participants should strive to monitor and control trading permissions and credit provision in Real Time at all stages of transactions..."

[10] BIS February 2013 "Supervisory guidance for managing risks associated with the settlement of foreign exchange transactions" https://www.bis.org/publ/bcbs241.pdf

Industry Discussion

This document has discussed the many benefits and important considerations for FX market participants when adopting the new dynamic credit allocation tools. As well as promoting greater market access, efficiency and growth, dynamic credit solutions could offer supervisors some additional comfort in the development and adoption of tools that can help to lower the systemic credit risk in today's FX market.

The intention of this paper is a call to action – to encourage FX market participants into a broader discussion and to promote the adoption and implementation of dynamic credit solutions. Broader adoption will create the network effects necessary to improve the overall functioning and efficiency of the global FX market – for all market participants.

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