Reference Materials

Foreign exchange: Digital money and the future of FX

Invite-only, Chatham House Rules observed

The roundtable will be closely tied to the work the BIS Innovation Hub is doing on Project Rialto.

Project Rialto Overview

Improving instant cross-border payments using wholesale CBDC settlement

1. Introduction

Achieving immediate, cheap, interoperable, and secure cross-border payments is an explicit international policy target and is part of the agenda of the G20 (FSB, 2020). In the European Union, the European Commission has remarked on the importance of improving the efficiency of both types of payments in its Capital Market Union action plan (European Commission, 2020a) and its Retail Payments Strategy (European Commission, 2020b).

Among the candidate solutions to make cross-border payments more efficient, previous literature on financial market infrastructure and payment systems has identified the interlinking of instant payment systems and the interoperability of CBDC arrangements as the most promising to make cross-border payments immediate, cheap, universal and settled using a safe settlement asset (Auer, et al., 2021; Boar et al., 2021; CPMI, 2022; Bindseil & Pantelopoulos, 2022).

Foreign exchange (FX) is a key component of cross-border payments. Currently, correspondent banks facilitate the provision of FX services which can be costly, slow, complex, and expose participants in the payments chain to liquidity, credit, and settlement risks. To tackle these challenges, the project idea set forth in this proposal looks at the technical feasibility of cross-border payments using interlinked instant payment systems with an automatic FX wholesale conversion layer that allows the use of wholesale CBDC (wCBDC) as a safe settlement asset.

2. Project overview

Project Rialto builds on previous work conducted at the BIS Innovation Hub focused on cross-border payments including projects Dunbar, Jura, mBridge, Mariana, Icebreaker and Nexus. The goal of the project is to develop a novel solution for cross-border payments with wCBDC settlement and an automatic FX conversion layer, potentially on-chain[1] (e.g. Automated Market Makers – AMM – or alternative mechanisms).

The project will prototype a modular FX component that will be used to test cross-border transactions using interlinked instant payment systems but could also be deployed with other payment or asset settlement systems.

In addition, the project will provide insights on whether automatic FX conversion mechanisms (e.g. AMMs or alternative solutions) are economically viable compared to traditional FX venues. The analysis may also explore how automated on-chain solutions can be practicable to foreign exchange market operators and Payment Service Providers (PSP).

The aspects of composability and economic viability are closely linked in terms of expected deliverables and outcomes, as studying the economic viability aspects will set forth the desired requirements of an automatic FX conversion layer and ultimately reduce the gaps between the experimental framework and its practical adoption.

2.1 Problem statement

In existing payment systems, currency conversion services in cross-border payments are provided by specialised intermediaries (FX providers). To make a cross-currency payment possible, FX providers buy (receive) one currency from the payer's PSP and sell (pay out) the other currency to the beneficiary's PSP.

In most BISIH projects, FX services are assumed to be provided by the correspondent banking network, that is with the participation of third-party intermediaries. However, there are several pain points, risks and inefficiencies associated with the current approach.

First, the existence of third-party intermediaries involved in the provision of FX services in the cross-border payments market is known to generate higher costs and inefficiencies (FSB, 2020; BIS Innovation Hub, 2023b). Having access to an automatic FX conversion

solution could reduce the number of intermediaries involved in the cross-border payment chain, increase speed, decrease costs for end users, and improve transparency.

Second, in existing cross-border payment systems, payers often have no choice regarding the exchange rate, as they have no control on who the provider of foreign exchange conversion is (BIS Innovation Hub, 2023b). This lack of transparency may lead to inefficient pricing of payment services, higher fees and lower consumer welfare.

Another related issue in the current payments landscape is the use of a vehicle currency in FX provision, that is often the case for less liquid currencies (for example, some currency pairs use the US dollar for FX). This may increase the risk of insufficient liquidity in the desired currency pair, which can drive fees up and result in delays. In the context of interlinked payment systems (BIS Innovation Hub, 2023a), this may also result in the necessity to link a third instant payment system and add complexity to the communication mechanism and ultimately delay the payment.

Additional inefficiencies can be found in terms of settlement and credit risk of correspondent banks involved in FX conversion services. Settlement risk in FX markets is still an important source of instability and cost. According to the latest BIS estimates around one into three FX transactions are subject to settlement risk (Glowka and Nilsson, 2022).

On the other hand, innovative solutions based on CBDC arrangements remove the need for correspondent banking (Bech, et al., 2023; BIS Innovation Hub, 2023c), but their limits in terms of reachability from PSPs and interoperability with legacy market infrastructures may pose scalability challenges that will be difficult to address in the immediate future.

[1] On-chain here refers to a foreign exchange market based on Distributed Ledger Technology.