Box 3: Instant Payments and their Interbank Settlement

When referring to instant payments, it is understood that these are orders for the transfer of resources through wire transfers, which move from the account of one payer to the account of a payee within seconds, seven days a week, and twenty-four hours a day (24/7) (CPMI, 2021: 2).

While from the user experience perspective, the transfer is "instant" (i.e., regarding the crediting of the payee's account and the debiting of the payer's account, it takes just seconds), the final settlement of obligations among the financial institutions participating in the fast payment system may not be instant (CPMI, 2021: 8). This is because achieving immediacy in interbank settlement requires the appropriate infrastructure. In other words, a real-time interbank payment system is necessary to settle each transaction individually, allowing final funds to be made available to the beneficiaries immediately after interbank settlements occur.

According to international experience, the decision to introduce instant payments is often accompanied by the option of using or improving the pre-existing large-value payment system or building a new infrastructure for the instant settlement of such payments between financial institutions (BIS, 2024: 36).

Such is the case in Colombia, as *Banco de la República* (*Banrep*) will soon offer real-time settlement services for fast payment systems (FPS) through the operational settlement mechanism (MOL in Spanish), based on a new high-availability platform. This platform will enable participants in the FPS to debit or credit their deposit accounts held at *Banrep* to fulfill payment orders, transfers, or both. This new *Banrep* service will allow FPS participants to settle transactions in real-time and in central bank money[1], seeking to mitigate settlement, credit, and liquidity risks.

1. Large-Value Payment Systems and the Importance of Settling in Central Bank Money

In general, central banks manage large-value payment systems, where financial institutions settle the cash leg of the transactions traded in financial markets, as well as the results from the multilateral netting of the various electronic payment instruments. In this context, central bank money exists in the form of reserves held at the central bank on behalf of financial institutions, accessed through an electronic system that manages the obligations of the participants. These reserves serve as the means of payment used by entities to fulfill their business transactions (*Banrep*, 2015).

Public trust in various means of payment partly stems from the ability to transfer these means at any time to other accounts within the financial system or convert them into money issued by the central bank (Manning et al., 2009: 34). However, while the final settlement of

1 Central bank money is a liability of a central bank, in this case in the form of deposits held at the central bank itself, which can be used for settlement.

transactions using commercial bank money may be subject to uncertainty (for example, if a bank faces difficulties in meeting its obligations), central bank-issued means of payment are free from that risk (Couture and Bélisle, 2015: 35-36). For this reason, monetary systems have institutional frameworks designed to protect public trust and money, with instruments such as deposit insurance and the regulation and oversight of financial institutions by state agencies. Likewise, for the smooth functioning of the payment system and the financial system in general (BIS, 2003: 1), it is essential that governments and central banks ensure that payments are settled securely, efficiently, and promptly.

Thus, *Banrep*, like most central banks, provides payment system services to commercial banks and other authorized financial institutions by opening deposit accounts at the central bank, allowing them to settle transactions in financial markets and make direct fund transfers among themselves. This function aligns with the tiered structure of the financial system where individuals and non-financial institutions manage part of their liquidity with commercial banks, while these banks manage their liquidity at the central bank (BIS, 2003: 2).

2. Settlement, Credit, and Liquidity Risks

One of the key risks faced by financial market infrastructures (FMIs) is the settlement risk, which refers to the failure to settle as intended. An FMI faces this risk whether the settlement of a transaction occurs on its own books or those of another FMI, as well as on the books of a third party (for example, a central bank or a commercial bank) (CPMI-Iosco, 2012).

FMIs are also exposed to credit risk, which may arise when a settlement bank defaults on its obligations (e.g., if the settlement bank becomes insolvent). When an FMI settles on its own books, participants face credit risk arising from the FMI itself. Liquidity risk can arise in monetary settlements if, once a payment obligation is settled, participants or the FMI itself are unable to easily transfer their assets from the settlement bank to other liquid assets, such as deposits at the central bank (CPMI-Iosco, 2012).

In light of the above, CPMI-Iosco (2012), in its principles for financial market infrastructures, recommends that settlements of transactions between financial institutions (i.e., interbank settlements) be conducted in central bank money, as established in Principle 9: “Money Settlements: An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money” (CPMI-Iosco, 2012).

3. Settlement Models

Over the past twenty years, fast payment systems (FPS) have been implemented globally, primarily focusing on achieving immediacy for the end user, allowing for the settlement of transactions between financial institutions to occur either on a deferred or real-time basis.

One major advantage of the deferred model is that financial institutions participating in the FPS do not need to maintain liquidity at all times. However, it exposes the financial institution receiving the payment or transfer to credit risk, as the customer receives the payment, but the financial institution will only materialize it once the net settlement occurs. To manage this risk, participants are generally required to maintain certain levels of collateral. In contrast, the gross settlement model avoids the credit and liquidity risks associated with interbank settlement (e.g., in the event of a participant’s default). However, it generally requires a higher level of liquidity than net settlement, implying that the settlement system must have operational tools to manage this risk.

In the past, deferred net settlement was preferred by most fast payment systems, mainly due to technological limitations and the benefits this model offered for liquidity management through cost savings. Nevertheless, today, thanks to technological developments, it is easier to create systems capable of processing high volumes of transactions continuously. This, combined with a growing interest in managing credit risk, has led to most fast payment systems developed worldwide after 2015 being based on real-time gross settlement (Bank of Korea, 2002: 4).

3.1 Deferred Settlement

Transactions are transmitted, confirmed, and reported in real-time to the financial institutions involved, and settlement occurs after the beneficiary's financial institution has credited the funds to the beneficiary's account. In other words, the fulfillment of individual payment obligations between the payer and the payee is separated from the fulfillment of the existing obligations between the participating financial institutions. Multilateral net positions between participating institutions can be settled once or multiple times a day. Settlement may occur in a dedicated infrastructure or in a system also used for other participants to hold accounts, such as a real-time gross settlement system (*Banrep*, 2017).

3.2 Real-Time Settlement

This model involves executing credits and debits among various participants in the payment chain (i.e., payers, payees, and their respective banks) at high speed, including settlement between financial institutions. This means that the payer's financial institution sends funds via the FPS to the payee's financial institution before it credits the funds to the holder. In this model, transactions are transmitted, confirmed, established, and reported in real-time to the financial institutions involved. The model can incorporate two forms: with or without net clearing before settlement. If there is no net clearing, each individual payment obligation between end users generates an equal obligation among participating institutions, which are settled on a gross basis. If there is net clearing, it applies to a high number of very short settlement cycles so that it can occur in almost real-time (*Banrep*, 2017).

This model may require the operator of the real-time gross settlement system (RTGS) to have additional operational tools, such as configuring the model within the existing RTGS accounts, which would mean making it available 24/7 for interbank settlement or a model with a dedicated account different from the existing RTGS account (CPMI, 2021: 8). In this case, the system that manages the dedicated accounts must be open 24/7 for interbank settlement.

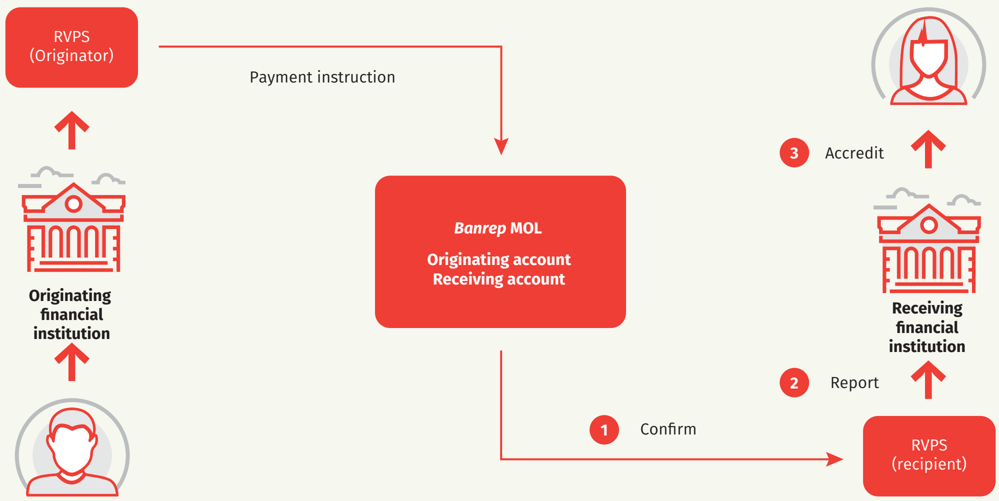
4. Settlement for Fast Payments in Colombia

Among the new services *Banrep* will provide in the country's fast payment ecosystem are a centralized directory, a FPS, and an operational settlement mechanism (MOL) of fast payments. The latter is the solution that *Banrep* aims to provide to the financial institutions participating in the various FPSs to settle interbank fast payments in central bank money. This system will allow for real-time gross settlement exclusively in deposit accounts at *Banrep*, including the ability to reserve funds in the participants' deposit accounts for each payment order/funds transfer (PO/FT) to ensure the legal acceptance of the transactions. In accordance with Article 15 of External Resolution 6 of 2023 from *Banrep*'s Board of Directors: "[...] the settlement of Fast Payment Orders and/or Funds Transfers will be executed through the Operational Settlement Mechanism exclusively in the deposit accounts at *Banco de la República*."The MOL will have a large-value independent settlement configuration and will allow each participant in the FPS to link one of their existing deposit accounts at the central bank for settlement of POs/FTs. The MOL will be available 24/7 for interbank settlement as ordered by the FPS. The large-value payment system will continue to operate on business days from Monday to Friday, from 7:00 a.m. to 8:00 p.m. It is worth mentioning that participants in the FPS who are not authorized to have a deposit account at *Banrep* can settle their POs/FTs through a deposit account opened by an authorized participant (indirect model).

This model includes a functionality that allows the participant, at their discretion, to allocate the total balance of a single deposit account: 1) how much to retain for transactions in the large-value system, and 2) how much to allocate for settling POs/FTs in the MOL.

The settlement characteristics were established in External Circular 465, specifically in Annex 2. In summary, after sending the payment instructions and having the transaction passed through the risk controls established in the originating and receiving FPSs, thus resulting in legal acceptance by the originating FPS, the most relevant steps in the settlement flow are as follows: 1) in the MOL, the money from the instant transaction is transferred from the originating participant's deposit account to the receiving participant's deposit account, 2) the MOL confirms the settlement to the receiving FPS, which informs the receiving participant that they can disburse the funds to the final beneficiary, as they are already secured in their deposit account in the MOL of *Banrep*, and 3) the receiving participant credits the funds to the final beneficiary (Diagram B3.1).

Diagram B3.1
Interbank Settlement Flow



Source: *Banco de la República*

Thus, in the fast payment ecosystem in Colombia, not only from the user experience perspective is the transfer "instant" (i.e., the crediting to the payee's account and the debiting from the payer's account takes seconds), but the final settlement of obligations among the financial institutions participating in the fast payment systems will also be instant. The MOL of *Banrep* will facilitate the mitigation of settlement, credit, and liquidity risks in the POs/FTs from the perspective of interbank settlement.

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