Cross-Border Card Transactions – Questions about FX Rates and Cash Flow

The topic of settlements of cross-border card transactions is often touched by our customers. It is not always clear how various fees are calculated. In this article we would like to explain how it works in detail.

The standard transaction flow

In general, a **cross-border transaction** works in the same way as a **domestic transaction**:

1. The cardholder presents the card to the merchant or terminal (either online by entering card data, or in a contactless way or as a standard plastic card transaction or at an ATM).

2. The acquirer gets card and transaction data from the terminal.

3. Based on the **BIN** table, the acquirer sends transaction authorization to **Mastercard or VISA (Payment Schemes)**.

4. The payment scheme transfers authorization to the card issuer.

5. The card issuer approves or declines the authorization and blocks the amount on the cardholder account.

6. In case of approved transactions, the acquirer prepares a clearing file and sends it for settlement.

7. The payment scheme receives a clearing file and processes it.

8. The payment scheme takes money from the issuer settlement account and transfers it to the acquirer settlement account.

9. The payment scheme settles fees between itself, the issuer and the acquirer.

10. The merchant receives money for the transaction.

11. The acquirer charges merchant fees.

The added complexity of currency conversion in cross-border transactions

As mentioned above, this process is the same for domestic and cross-border transactions. However, in cross-border transactions the currency conversion process takes place, bringing an additional layer of complexity. As conversion applies at various moments of transaction, let me describe this in detail below:

1. Merchant and Acquirer

a. The merchant can agree with the acquirer that they want to **receive money in one or multiple currencies**. Depending on this contract, the acquirer will transfer money to the merchant in those currencies. It is impossible that ALL currencies in the world will be used, so usually merchants want to receive money in a few main currencies

b. The acquirer has **Settlement Services** with payment schemes in several or many currencies.

c. Depending on the Settlement Services, if a transaction is performed in currency X, the acquirer receives money in currency X. No currency conversion cost will apply at a payment scheme.

d. However, if the transaction is performed in currency X, but the acquirer does not have Settlement Service in this currency, the payment scheme will convert currency X to currency Y and send money to the acquirer in currency Y.

e. The acquirer will receive currency Y on their bank account and will either convert it to the merchant settlement currency or will transfer it directly to the merchant in currency Y.

f. Various fees charged by the acquirer can apply if the acquirer is performing currency conversion.

2. Payment Scheme

a. As described above, acquirers have **Settlement Services enabled by Payment Schemes**. Issuers have the same.

b. The issuer can have Settlement Service in main currencies:

i. Local currency

ii. EUR settlement

iii. USD settlement

iv. Eventually in other currencies

c. Every new Settlement Service is a paid service, so both issuers and acquirers must decide which is the correct setup of settlement services. Depending on this decision, the Payment Scheme will perform more or less currency conversion operations and will earn fees during this process.

d. The Payment Scheme provides issuers and acquirers with currency conversion tables which can act as a **directional FX rate** for them. However, the **real FX rate** for a particular transaction is performed at the moment of transaction settlement at the Payment Scheme.

e. This means that if the cardholder performs a transaction, his/her issuer is never sure what will be the settlement amount for this transaction

3. Issuer and Cardholder

a. Finally, depending on the Settlement Service agreed with the Payment Scheme, the issuer enables cards for their users.

b. The cardholder has usually (actually always) a payment account connected with this card and the cardholder knows that he/she holds money in a particular currency enabled by his/her bank / issuer.

c. It means that all transactions on this payment account will be charged in this particular currency.

d. Depending on the currency of the transaction and the settlement service enabled by the payment scheme, the issuer will perform the currency conversion and charge the cardholder additional fees.

Conclusion

This topic is highly complex and depends on many factors. Issuers and acquirers must make a decision which approach is the best for them, which Settlement Services to enable with **Mastercard or VISA** and what should be the fee charged for this service because it is impossible to avoid all risks connected with currency conversion changes.

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